

Spark Therapeutics, Inc.  
 Form 424B5  
 June 14, 2016

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**Filed Pursuant to Rule 424(b)(5)  
 Registration No. 333-211993**

**The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement has been filed with the Securities and Exchange Commission and is effective. This prospectus supplement is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

**Subject to completion, dated June 13, 2016**

**PROSPECTUS SUPPLEMENT**

**(To Prospectus dated June 13, 2016)**

***3,500,000 shares***

***Common stock***

Spark Therapeutics, Inc. is offering 2,500,000 shares of common stock and The Children’s Hospital of Philadelphia Foundation, the selling stockholder identified in this prospectus supplement, is offering 1,000,000 shares of our common stock. We will not receive any proceeds from the sale of any shares by the selling stockholder.

Our common stock is listed on the NASDAQ Global Select Market under the symbol ONCE. On June 10, 2016, the last sale price of our common stock as reported on the NASDAQ Global Select Market was \$53.58 per share.

We are an emerging growth company as that term is used in the Jumpstart Our Business Startups Act of 2012 and, as such, have elected to comply with certain reduced public reporting requirements.

	<b>Per share</b>	<b>Total</b>
Public offering price	\$	\$
Underwriting discounts and commissions(1)	\$	\$
Proceeds to Spark, before expenses	\$	\$
Proceeds to selling stockholder, before expenses	\$	\$

(1) We have agreed to reimburse the underwriters for certain FINRA-related expenses. See Underwriting beginning on page S-29 of this prospectus supplement. We have granted the underwriters an option for a period of 30 days to purchase up to an additional 525,000 shares of common stock.

Investing in our common stock involves risks. See Risk factors beginning on page S-13 of this prospectus supplement, as well as those contained in the accompanying prospectus and the documents incorporated herein and therein.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of common stock to investors on or about \_\_\_\_\_, 2016.

**J.P. Morgan**

The date of this prospectus supplement is June \_\_\_\_\_, 2016.

**Cowen and Company**

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## **About this prospectus supplement**

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this common stock offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us or the selling stockholder in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

We, the selling stockholder and the underwriters have not authorized anyone to provide you with any information other than that contained in this prospectus supplement and the accompanying prospectus or in any free writing prospectus we may authorize to be delivered or made available to you. We, the selling stockholder and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the selling stockholder are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus is accurate only as of the date of this prospectus supplement, regardless of the time of delivery of this prospectus supplement or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date. You should also read and consider the information in the documents to which we have referred you in the sections entitled *Where you can find more information* and *Incorporation of documents by reference* in this prospectus supplement and in the accompanying prospectus.

For investors outside the United States: We, the selling stockholder and the underwriters have not done anything that would permit this offering or possession or distribution of this prospectus supplement and the accompanying prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States.

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## **Prospectus supplement summary**

*This summary highlights information contained elsewhere in this prospectus supplement, the accompanying prospectus and documents incorporated by reference herein and therein. This summary does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus supplement and accompanying prospectus carefully, especially the Risk factors section of this prospectus supplement and the risk factors contained in our Annual Report on Form 10-K for the year ended December 31, 2015 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 and our financial statements and the related notes incorporated by reference herein, before making an investment decision.*

### **Overview**

We are a leader in the field of gene therapy, seeking to transform the lives of patients suffering from debilitating genetic diseases by developing one-time, life-altering treatments. The goal of gene therapy is to overcome the effects of a malfunctioning, disease-causing gene. Our product candidates have the potential to provide long-lasting effects, dramatically and positively changing the lives of patients with conditions where no, or only palliative, therapies exist. Our initial focus is on treating orphan diseases, and we reported statistically significant results in a pivotal Phase 3 clinical trial of our first product candidate targeting rare genetic blinding conditions, which has received both breakthrough therapy and orphan product designation. Additionally, in May 2016, Pfizer and we announced data which show encouraging phase 1/2 initial observations for our hemophilia candidate.

We also have built a pipeline of product candidates targeting additional rare blinding conditions, hematologic disorders and neurodegenerative diseases. Our pipeline includes: a product candidate targeting choroideremia currently in a Phase 1/2 clinical trial; product candidates for the treatment of hemophilia including a hemophilia B product candidate currently in a Phase 1/2 clinical trial in collaboration with Pfizer Inc., or Pfizer, and a preclinical product candidate for hemophilia A to which we retain global commercialization rights; a preclinical product candidate for the treatment of TPP1 deficiency, a form of Batten disease; and other preclinical disease programs.

### **Product candidates**

#### *Voretigine neparovec*

Our most advanced product candidate, voretigene neparovec, formerly referred to as SPK-RPE65, is intended to treat genetic blinding conditions called inherited retinal diseases, or IRDs, caused by non sex-linked, or autosomal recessive, mutations in the *RPE65* gene. Patients suffering from *RPE65*-mediated IRDs are affected by a range of severe visual impairments, notably night blindness, or nyctopia, that make independent activities of daily living challenging and ultimately lead to blindness. For example, affected children often depend on visual aids to carry out classroom activities while adults with these diseases may face diminished employment opportunities and may be stripped of some of the rewards of parenting, such as watching a child play his or her favorite sport. We estimate that there are approximately 3,500 individuals with *RPE65*-mediated IRDs in the United States, as well as France, Germany, Italy, Spain and the United Kingdom, which are referred to as the five major European markets. We have received orphan product designation for voretigene neparovec for the treatment of *RPE65*-mediated IRDs in both the United States and the European Union.

In October 2015, we announced positive top-line results from our pivotal Phase 3 clinical trial of *SPK-RPE65*, the first successfully completed randomized controlled Phase 3 trial of a gene therapy for genetic disease in the

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United States. The trial of 31 subjects met with statistical significance its primary endpoint, the bilateral mobility test change score ( $p = .001$ ), as well as the first two of three secondary endpoints, specifically full-field light sensitivity threshold testing, or FST, ( $p < .001$ ) and the assigned first eye mobility test change score ( $p = .001$ ). Statistical significance was not achieved for the third secondary endpoint, visual acuity ( $p = .17$ ). To date, we have not observed any product candidate-related serious adverse events and no deleterious immune responses in either the Phase 3 trial or in earlier Phase 1 trials. Based on these positive results, we intend to submit a Biologics License Application, or BLA, for voretigene neparvovec with the U.S. Food and Drug Administration, or FDA, in the second half of 2016 as the first step in executing our global regulatory and commercialization strategy and intend to submit a marketing authorization application, or MAA, with the European Union in 2017. In April 2016, we submitted the non-clinical section of the BLA to FDA which is the first component of a rolling BLA submission.

The Phase 3 trial demonstrated a statistically significant restoration of vision in subjects that were progressing toward complete blindness. On average, subjects that received voretigene neparvovec demonstrated an improvement of 1.9 light levels. Specifically, nearly two-thirds of the subjects in the intervention group achieved the maximum improvement measurable on the mobility test. Similarly, on average, intervention group subjects achieved a 100-fold improvement in light sensitivity as measured by FST.

Voretigene neparvovec continues to demonstrate long-lasting effects as measured by both mobility testing and FST. Specifically, a cohort of eight subjects that participated in our second Phase 1 clinical trial, and that would have met the eligibility criteria for the Phase 3 trial, continue to experience durable improvement over three years from time of administration, with observation ongoing. These results provide further evidence of the long-lasting effects of *SPK-RPE65* in restoring functional vision beyond three years that were reported by the Phase 1 clinical study team.

With the broad availability of genetic testing, the corresponding shift from clinical to genetic diagnosis, the genetic heterogeneity of the subjects tested to date and the fact that voretigene neparvovec delivers a normal, functional copy of the *RPE65* gene regardless of the type or location of the underlying mutations, we believe voretigene neparvovec should have broad application to all IRDs caused by autosomal recessive *RPE65* gene mutations. As such, we are developing a regulatory strategy and are considering seeking approval for a label that would include both a description of the core clinical manifestation of *RPE65*-mediated disease along with a genetic characterization of the patients that should receive the product candidate. One such possible clinical manifestation is nyctopia, or night blindness, which is not only a hallmark of *RPE65*-mediated disease, but was assessed by multiple endpoints in our trials and was specifically noted in our breakthrough therapy designation.

We possess global rights to voretigene neparvovec. If approved, we intend to commercialize voretigene neparvovec globally, initially in the United States, the European Union and Latin America. We plan to employ small, targeted commercial and medical affairs groups to build and promote access to the product through centers that specialize in treating IRDs in the United States, the European Union and other major markets, including in Latin America and Asia. We believe that this approach is more patient-centered and will provide the foundation for future commercial and medical affairs operations, particularly for additional gene therapy product candidates for IRDs. The five primary areas of our pre-launch efforts include patient identification, ensuring market access, developing a high-quality delivery and distribution model, building a patient-centric organization and educating stakeholders.

### ***Other IRDs***

We are pursuing other follow-on product candidates targeting other IRDs, including *SPK-CHM* for the treatment of choroideremia, or CHM. CHM is an IRD linked to the X-chromosome, which manifests in affected males in

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childhood as night blindness and a reduction of visual field, followed by progressive constriction of visual fields. For CHM patients, it is often in middle age, when people typically are at or near their greatest income-earning potential, that visual impairment begins to limit independent activities of daily living leading to a severe decrease in functional vision. CHM ultimately results in blindness. We have completed enrollment of subjects in the second cohort of our dose escalating Phase 1/2 trial for *SPK-CHM* and expect to receive initial clinical data in the second half of 2016. To date, *SPK-CHM* has been well tolerated and we have not observed any product candidate-related serious adverse events in this trial. We have received orphan product designation for *SPK-CHM* for the treatment of CHM in both the United States and the European Union.

In March 2016, we acquired Genable Technologies Ltd, or Genable, an Ireland-based private gene therapy company with which we had collaborated since 2014 in the development of Genable's therapeutic program targeting a genetic IRD. With the acquisition, we acquired exclusive rights to RhoNova™ a gene therapy being developed by Genable to target rhodopsin-linked autosomal dominant retinitis pigmentosa, or RHO-adRP, an IRD that routinely leads to visual impairment and in the most severe cases to blindness and that we believe affects approximately 12,000 people in the United States and the five major European markets. The intellectual property rights concerning RhoNova™ that we have acquired with the acquisition of Genable include those owned by Genable and exclusively licensed from Trinity College Dublin and Benitec Biopharma Ltd.

In December 2015, we in-licensed technology with which we have initiated preclinical development of *SPK-LHON*, addressing Leber hereditary optic neuropathy, or LHON, an IRD that we believe affects approximately three in 100,000 people. We are actively evaluating additional IRDs to further expand our ophthalmic gene therapy portfolio.

### ***Hematologic disorders***

Hemophilia is a rare genetic bleeding disorder that causes the blood to take a long time to clot as a result of a deficiency in one of several blood clotting factors, and occurs almost exclusively in males. People with hemophilia face specific risks as they are not able to form blood clots efficiently and are at risk for excessive and recurrent bleeding from modest injuries, which have the potential to be life threatening. People with severe hemophilia often bleed spontaneously into their muscles or joints. Hemophilia A is more common than hemophilia B. The incidence of hemophilia A is one in 5,000 live male births. People with hemophilia A have a deficiency in clotting Factor VIII, a specific protein in the blood. Hemophilia A is also called congenital Factor VIII deficiency or classic hemophilia. Current standard of care requires recurrent intravenous infusions of either plasma-derived or recombinant Factor VIII to control and prevent bleeding episodes. The incidence of hemophilia B is one in 25,000 births. People with hemophilia B have a deficiency in clotting Factor IX, a specific protein in the blood. Hemophilia B is also called congenital Factor IX deficiency or Christmas disease. Current standard of care requires recurrent intravenous infusions of either plasma-derived or recombinant Factor IX to control and prevent bleeding episodes. There exists a significant need for novel therapeutics to treat people living with hemophilia.

In December 2014, we entered into a global collaboration agreement with Pfizer for the development and commercialization of *SPK-FIX* product candidates for the treatment of hemophilia B. Pfizer and we are developing proprietary, bio-engineered adeno-associated virus, or AAV, vectors utilizing a high-activity FIX transgene and a treatment protocol designed to mitigate immune responses seen in other hemophilia B gene therapy trials, including our own, that have limited the duration of efficacy. Under the terms of the agreement, we received a \$20.0 million upfront payment in 2014, earned a \$15 million milestone payment in December 2015 and are eligible to receive up to an additional \$245 million in aggregate milestone payments, as well as royalties calculated as a low-teen percentage of net product sales.

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In May and June 2016, Pfizer and we announced data which show encouraging initial observations for the first subjects dosed in a Phase 1/2 clinical trial of *SPK-9001*, our lead *SPK-FIX* product candidate. These data demonstrate that the first four subjects enrolled in the trial experienced AAV-mediated Factor IX activity levels following one administration of *SPK-9001* at the initial dose ( $5 \times 10^{11}$  vg/kg) studied in the trial. All four subjects had moderate to severe hemophilia B. Factor IX activity levels in the first two subjects, which had no prior history of liver disease, rose over time through the first four weeks post-administration. The first subject stabilized at 28% of normal at 26 weeks and the second subject at 41% of normal at 15 weeks post-administration. Factor IX activity level in the third subject, with a history of liver disease, also rose over time and was 26% of normal at ten weeks post-administration. The fourth subject, also with a history of liver disease, saw a clinical response similar to the earlier subjects and was at 33% of normal through approximately seven weeks post-administration. Data from a natural history of patients with hemophilia suggest that circulating factor activity levels sustained at a threshold of greater than 12% of normal generally are considered to be sufficient to reduce the risk of joint bleeds and the need for prophylactic clotting factor infusions. *SPK-9001* was well tolerated. No subjects in the subject received immunosuppression or needed to infuse factor. Across this four patient cohort, we saw no sustained elevation in liver enzyme levels and no drop in Factor IX levels. To date, *SPK-9001* has been well-tolerated and no subjects have needed, or received, immunosuppression.

In our *SPK-FVIII* program for the treatment of hemophilia A, we recently nominated a lead product candidate, *SPK-8011*, that has demonstrated production of therapeutic levels of Factor VIII in multiple preclinical models including non-human primates and human hepatocytes at doses that have been safely delivered to humans in hemophilia B studies. We expect to progress *SPK-8011* for hemophilia A into a Phase 1/2 clinical trial in the second half of 2016, and expect to receive initial efficacy data for *SPK-8011* in the first half of 2017. We retain global commercialization rights to the *SPK-FVIII* program.

***Neurodegenerative diseases***

We are developing a lead neurodegenerative disease product candidate in our *SPK-TPP1* program that has demonstrated compelling preclinical proof-of-concept data for the treatment of a form of Batten disease, a fatal neurological disorder involving mutations of the TPP1 gene, also known as the CLN2 gene, that begins in early childhood. TPP1 deficiency results in motor and mental decline, seizures and visual deficits appearing between ages two to four and is fatal by ages ten to twelve in a majority of cases. We believe there are approximately 750 to 1,000 patients with TPP1 deficiency in the United States and the five major European markets with approximately 75 to 100 new cases annually. In a well-established preclinical model of TPP1 deficiency, administration of our lead *SPK-TPP1* product candidate to the ependymal cells of the brain ventricular system resulted in delayed onset of clinical symptoms and disease progression, protection from cognitive decline and extension of lifespan relative to untreated controls. Notably, the study produced effective distribution of the TPP1 enzyme throughout the central nervous system, as evidenced by immunohistochemistry and enzyme activity assay. We initiated IND-enabling studies for our lead *SPK-TPP1* product candidate in 2015.

We also are conducting preclinical studies on a product candidate for the treatment of Huntington's disease, a hereditary genetic disorder that we believe affects over 60,000 patients in the United States and the five major European markets.



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The following table summarizes information regarding our product candidates and development programs.

### **Technology**

We are building a fully integrated gene therapy platform to accelerate the development of product candidates across multiple therapeutic areas. Our platform technology, which leverages two decades of gene therapy research, development, manufacturing and clinical trials conducted at The Children's Hospital of Philadelphia, or CHOP, enables us to pursue multiple therapeutic targets. We have proven expertise in vector design and selection, clinical innovation, manufacturing, formulation and product development. Our scientists and scientific advisors have accumulated over 150 years of collective experience in the field of gene therapy, contributing key insights and significant developments that have coincided with a resurgence of interest in gene-based medicines.

Our proprietary manufacturing processes produce consistent yields of highly pure and stable gene therapy product candidates. Gene therapies made using our platform technology, including AAV vectors and vectors derived from the lentivirus family of viruses, or lentiviral vectors, have been, or are being, used by several biopharmaceutical companies in clinical trials of their own gene therapy product candidates, as well as in multiple clinical trials sponsored by the U.S. National Institutes of Health. We have made significant investments in developing optimized manufacturing processes and believe that our processes and methods provide the most comprehensive manufacturing process developed to date for AAV-based vector product candidates, including: stable manufactured AAV vectors, a proprietary AAV vector manufacturing processes and techniques that produce a highly purified product candidate and a series of high-efficiency purification processes, adapted and customized for multiple different AAV capsids, which allows us to produce higher purity AAV vector solutions, with higher concentrations of active vectors and that are essentially free of empty capsids. We believe these improvements and our continued investment in our manufacturing platform will enable us to develop best-in-class, next generation gene therapy products.

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### **Our strategy**

Our goal is to transform the lives of patients by being the leading, fully integrated gene therapy company. We are seeking to develop, manufacture and commercialize multiple product candidates targeting orphan genetic diseases across multiple tissue types and therapeutic areas. To achieve our goal, we are pursuing the following strategies:

Obtain marketing approval for voretigene neparvovec in the United States and the European Union.

Establish global commercial and medical affairs capabilities for voretigene neparvovec.

Establish a franchise of gene therapies for additional IRDs, focusing next on the treatment of choroideremia with *SPK-CHM*.

Continue to build a liver-directed gene therapy platform, with an initial focus on our *SPK-FIX* program for the treatment of hemophilia B in collaboration with Pfizer and the advancement of our *SPK-FVIII* program for the treatment of hemophilia A, to which we retain global commercialization rights.

Advance preclinical neurodegenerative programs into clinical development.

Maintain and expand our industry-leading manufacturing capabilities.

### **Risks associated with our business**

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the Risk factors section of our Annual Report on Form 10-K for the year ended December 31, 2015 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016. These risks include the following:

We have incurred net losses since inception. As of March 31, 2016, we had an accumulated deficit of \$154.3 million. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability.

Our gene therapy product candidates are based on a novel technology, which makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval. At the moment, no gene therapy product for a genetic disease has been approved in the United States and only one such product has been approved in the European Union.

While we believe voretigene neparvovec should be applicable for the treatment of patients with any IRD mediated by *RPE65* mutations, the results from our pivotal Phase 3 clinical trial for voretigene neparvovec, which included only subjects diagnosed with LCA due to *RPE65* mutations, may not support as broad a marketing approval as we seek, and FDA and the European Medicines Agency, or EMA, may require us to conduct additional clinical trials or evaluate subjects for an additional follow-up period.

Gene therapies are novel, complex and difficult to manufacture. We could experience problems that result in delays in validating our manufacturing processes or delays in the development or production of our product candidates, that could adversely affect our business. To date, no current Good Manufacturing Practices, or cGMP, gene therapy manufacturing facility in the United States has received approval from FDA for the manufacture of an approved gene therapy product.

Because we are developing product candidates for the treatment of diseases in which there is little clinical experience and, in some cases, using new endpoints or analytical methodologies, there is increased risk that FDA or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results and that these results may be difficult to analyze.

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We have entered into, and may in the future enter into additional, collaborations with third parties to develop product candidates. If these collaborations are not successful, our business could be adversely affected.

We face significant competition in an environment of rapid technological change. We are aware of a number of other companies and academic institutions currently developing AAV-based gene therapies. There is a possibility that one or more of our competitors may develop therapies that are more effective than ours or may obtain regulatory approval prior to us.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell any approved product candidates, we may be unable to generate any product revenue.

If the market opportunities for our product candidates are smaller than we believe they are, or if we do not maintain orphan product designation or receive market exclusivity, our product revenues may be adversely affected and our business may suffer.

The insurance coverage and reimbursement status of newly approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our products, if approved, could limit our ability to market those products and decrease our ability to generate product revenue.

Our gene therapy approach utilizes vectors derived from viruses, which may be perceived as unsafe or may result in unforeseen adverse events. Negative public opinion and increased regulatory scrutiny of gene therapy may damage public perception of the safety of our product candidates and adversely affect our ability to conduct clinical trials or obtain regulatory approvals for our product candidates.

We may not be successful in our efforts to identify or discover additional product candidates and may fail to capitalize on programs or product candidates that may be a greater commercial opportunity or for which there is a greater likelihood of success.

If we are not able to obtain or maintain adequate intellectual property protection covering our product candidates and manufacturing technologies, our competitors could develop and commercialize products and manufacturing technologies similar or identical to ours, and our ability to successfully commercialize our product candidates and manufacturing technologies may be impaired.

Our rights to develop and commercialize our product candidates are subject, in part, to the terms and conditions of licenses granted to us by others.

After this offering, our executive officers, directors and principal stockholders will maintain the ability to control all matters submitted to stockholders for approval.

## **Our corporate information**

Our company was formed as AAvenue Therapeutics, LLC, a Delaware limited liability company, on March 13, 2013. On October 14, 2013, we acquired or exclusively in-licensed the commercial and development rights to certain clinical and preclinical programs and intellectual property from CHOP and the University of Iowa Research Foundation, or UIRF, and in-licensed additional intellectual property from the University of Pennsylvania, or Penn. On October 15, 2013, we changed our name to Spark Therapeutics, LLC. On May 2, 2014, we converted from a Delaware limited liability company into a Delaware corporation, at which time we changed our name to Spark Therapeutics, Inc.



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Our executive offices are located at 3737 Market Street, Suite 1300, Philadelphia, PA 19104 and our telephone number is (855) 772-7589. Our website address is <http://www.sparktx.com>. The information contained in, or accessible through, our website does not constitute part of this prospectus supplement, and the inclusion of our website address in this prospectus supplement is an inactive textual reference only.

In this prospectus supplement, unless otherwise stated or the context otherwise requires:

references to Spark LLC refer to Spark Therapeutics, LLC only (which was previously known as AAVenue Therapeutics, LLC);

references to Spark Inc. refer to Spark Therapeutics, Inc. only;

references to Spark, we, us, our and similar references refer to Spark Inc., together with Spark LLC;

references to the corporate conversion refer to all of the transactions related to the conversion of Spark LLC into Spark Inc., including the conversion of all of the outstanding membership interests of Spark LLC into shares of capital stock of Spark Inc.;

references to (i) common stock refer to the common stock of Spark Inc. or, as applicable, to the common units of Spark LLC and (ii) preferred stock refer to the preferred stock of Spark Inc. or, as applicable, to the preferred units of Spark LLC;

references to Spark's clinical trials and similar references regarding clinical trials relating to our product candidates and the associated data (including the use of we, us and our ) include the applicable rights to clinical and preclinical programs assigned or licensed to us by CHOP or UIRF;

references to Spark's intellectual property and similar references regarding intellectual property relating to our product candidates (including the use of we, us and our ) include the applicable rights to intellectual property assigned or licensed to us by CHOP, UIRF or Penn; and

references to Spark's manufacturing platform and similar references regarding manufacturing of gene therapy product candidates (including the use of we, us and our ) include the applicable know-how assigned or licensed to us by CHOP.

SPARK and the Spark logo are trademarks of Spark Therapeutics, Inc. The other trademarks, trade names and service marks appearing in this prospectus supplement are the property of their respective owners.

## **Implications of being an emerging growth company**

As a company with less than \$1 billion in revenue during our last fiscal year, we qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we may remain an emerging growth company until the end of the 2020 fiscal year. For so long as we remain an emerging growth company, we are permitted, and intend, to rely on exemptions from certain disclosure and other requirements that are applicable to other public companies that are not emerging growth companies. In particular, in this prospectus supplement, accompanying prospectus and the documents incorporated by reference herein and therein, we have not included all of the executive compensation-related information that would be required if we were not an emerging growth company. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.



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## The offering

**Common stock offered by us** 2,500,000 shares

**Common stock offered by the selling stockholder** 1,000,000 shares

**Common stock to be outstanding after this offering** 29,995,507 shares

**Option to purchase additional shares** The underwriters have an option for a period of 30 days to purchase from us up to 525,000 additional shares of our common stock.

**Use of proceeds** We intend to use the net proceeds from this offering for: our *SPK-FVIII* program for the treatment of hemophilia A; planning, preparation and infrastructure-build related to the potential launch of voretigene neparvovec in the treatment of RPE65-mediated IRDs; continued development of large-scale manufacturing processes and expansion of our manufacturing capabilities; and non-clinical and clinical development of other pipeline candidates for liver-directed, neurodegenerative and inherited retinal disorders; and for working capital and other general corporate purposes, including in-licenses and potential acquisitions.

We will not receive any proceeds from the sale of any shares by the selling stockholder.

See [Use of proceeds](#) for more information.

**Risk factors** You should read the [Risk factors](#) beginning on page S-13 and the other information included in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus or a discussion of factors to consider carefully before deciding to invest in shares of our common stock.

**NASDAQ Global Select Market symbol** ONCE

The number of shares of our common stock to be outstanding after this offering is based on the 27,495,507 shares of our common stock outstanding as of May 31, 2016.

The number of shares of our common stock to be outstanding after this offering excludes:



## Edgar Filing: Spark Therapeutics, Inc. - Form 424B5

4,079,387 shares of common stock issuable upon exercise of stock options outstanding as of May 31, 2016 at a weighted-average exercise price of \$28.29 per share;

855,641 shares of common stock available for future issuance as of May 31, 2016 under our 2015 stock incentive plan;

490,828 additional shares of common stock available for future issuance as of May 31, 2016, under our 2015 employee stock purchase plan;  
and

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9,206 shares of common stock held in treasury as of May 31, 2016.

Unless otherwise indicated, this prospectus supplement reflects and assumes the following:

no exercise of outstanding stock options described above; and

no exercise by the underwriters of their option to purchase additional shares.

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Unaudited pro forma weighted  
average basic and diluted common  
shares outstanding(3)

11,894,230

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- (1) See Note 3(j) to our audited financial statements and Note 3(h) to our unaudited financial statements incorporated by reference in this prospectus supplement for an explanation of the method used to calculate basic and diluted net loss per common unit/share and weighted average basic and diluted common units/shares outstanding used to calculate the per common unit/share amounts.
- (2) Basic and diluted net loss per common unit and weighted average basic and diluted common units outstanding for the period from March 13, 2013 (inception) to December 31, 2013 do not give effect to the one-for-five reverse stock split that became effective on January 16, 2015 as only units of Spark LLC were outstanding during 2013 and the reverse split was not applicable to the units.
- (3) The unaudited pro forma net loss per common share is computed using the weighted average number of common shares outstanding and assumes the conversion of all outstanding shares of Series A preferred stock and Series B preferred stock into an aggregate of 10,037,255 shares of common stock upon the closing of our initial public offering on February 4, 2015.

The following is a reconciliation of pro forma weighted average basic and diluted common shares outstanding:

	<b>Year ended December 31, 2014</b>
Shares used in computing basic and diluted net loss per common share	5,397,599
Adjustment for conversion of preferred stock	6,496,631
<b>Pro forma weighted average basic and diluted common shares outstanding</b>	<b>11,894,230</b>

	<b>As of March 31, 2016</b>	
	<b>Actual</b>	<b>As Adjusted(1)</b>
	<b>(unaudited)</b>	
	<b>(in thousands)</b>	
<b>Balance Sheet Data:</b>		
Cash and cash equivalents	\$ 274,969	\$ 399,949
Working capital	\$ 259,592	\$ 384,572
Total assets	\$ 314,929	\$ 439,909
Total stockholders' equity	\$ 279,173	\$ 404,153

- (1) The as adjusted balance sheet data give effect to our issuance and the sale of 2,500,000 shares of common stock by us in this offering (assuming no exercise by the underwriters of their option to purchase additional shares) to the public at an assumed public offering price of \$53.58 per share, which was the last reported sale price of our common stock on the NASDAQ Global Select Market on June 10, 2016, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We will not receive any proceeds from any sale of shares of our common stock in this offering by the selling stockholder.

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## **Risk factors**

*Investing in our common stock involves a high degree of risk. Before investing in our common stock, you should consider carefully the risks described below, as well as the risk factors included in our Annual Report on Form 10-K for the year ended December 31, 2015 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, together with the other information contained in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus, including our financial statements and the related notes. If any of the following risks occur, our business, financial condition, results of operations and prospects could be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment.*

### **Risks related to this offering and ownership of our common stock**

*After this offering, our executive officers, directors and principal stockholders will maintain the ability to exert substantial influence over matters submitted to stockholders for approval.*

Upon the closing of this offering, assuming the sale by the selling stockholder of all the shares set forth on the cover page of this prospectus, our executive officers, directors and principal stockholders will, in the aggregate, beneficially own shares representing approximately 31.4% of our capital stock (or 30.9% if the underwriters exercise their option to purchase additional shares in full). As a result, if these stockholders were to act together, they would be able to exert substantial influence over matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they act together, may control the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of voting power could delay or prevent an acquisition of our company on terms that other stockholders may desire or result in management of our company that our public stockholders disagree with.

*A significant number of our total outstanding shares are restricted from immediate resale but may be sold into the market in the near future, which could cause the market price of our common stock to drop significantly, even if our business is performing well.*

Sales of a substantial number of shares of our common stock in the public market could occur at any time, subject to certain restrictions described below. These sales, or the perception in the market that holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. As of May 31, 2016, we had outstanding 27,495,507 shares of common stock. Of these shares, 8,793,359 shares are subject to lock-up agreements entered into in connection with this offering but may be sold beginning on the date that is 60 days after the date of this prospectus. Any of our remaining shares may be freely sold in the public market at any time to the extent permitted by Rules 144 and 701 under the Securities Act of 1933, as amended, or the Securities Act, or to the extent such shares have already been registered under the Securities Act and are held by non-affiliates of ours. Moreover, after this offering, holders of a substantial number of shares of our common stock have rights, subject to certain conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders, including the registration statement of which this prospectus forms a part, other than this offering. We filed registration statements registering all shares of common stock that we may issue under our equity compensation plans. As of May 31, 2016, we had outstanding options to purchase an aggregate of 4,079,387 shares of our common stock, of which options to purchase 927,684 shares were vested. These shares can be freely sold in the public market upon issuance, subject to volume limitations and black-out periods applicable to affiliates and the lock-up agreements described in the Underwriting section of this prospectus supplement.

In addition, certain of our employees, executive officers, directors and affiliated stockholders, including Sofinnova Venture Partners VIII, L.P., have entered or may enter into Rule 10b5-1 plans providing for sales of

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shares of our common stock from time to time. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the employee, director or officer when entering into the plan, without further direction from the employee, officer, director or affiliated stockholder. A Rule 10b5-1 plan may be amended or terminated in some circumstances. Our employees, executive officers, directors and affiliated stockholders also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information.

***If you purchase shares of common stock in this offering, you will suffer immediate dilution of your investment.***

The public offering price of our common stock will be substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our net tangible book value per share after this offering. To the extent outstanding options are exercised, you will incur further dilution. Based on an assumed public offering price of \$53.58 per share, which was the last reported sale price of our common stock on the NASDAQ Global Select Market on June 10, 2016, you will experience immediate dilution of \$40.64 per share, representing the difference between our as adjusted net tangible book value per share after giving effect to this offering at the assumed public offering price. See Dilution.

***If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.***

The trading market for our common stock relies, in part, on the research and reports that industry or financial analysts publish about us or our business. If no additional analysts commence coverage of us, the trading price of our stock could decrease. In addition, although we have obtained analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock or fail to regularly publish reports on us, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

***The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock in this offering.***

Our stock price is likely to be volatile. The stock market in general, and the market for biopharmaceutical companies in particular, has experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common stock at or above the initial public offering price. The market price for our common stock may be influenced by many factors, including:

results of clinical trials of our product candidates or those of our competitors;

the success of competitive products or technologies;

commencement or termination of collaborations;

regulatory or legal developments in the United States and other countries;

developments or disputes concerning patent applications, issued patents or other proprietary rights;

the recruitment or departure of key personnel;

the level of expenses related to any of our product candidates or clinical development programs;

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the results of our efforts to discover, develop, acquire or in-license additional product candidates;

actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;

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variations in our financial results or those of companies that are perceived to be similar to us;

changes in the structure of healthcare payment systems;

market conditions in the pharmaceutical and biotechnology sectors;

general economic, industry and market conditions; and

the other factors described in this "Risk factors" section.

If our quarterly operating results fall below the expectations of investors or securities analysts, the price of our common stock could decline substantially. Furthermore, any quarterly fluctuations in our operating results may, in turn, cause the price of our stock to fluctuate substantially. We believe that quarterly comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation often has been instituted against that company. Such litigation, if instituted against us, could cause us to incur substantial costs to defend such claims and divert management's attention and resources, which could seriously harm our business, financial condition, results of operations and prospects.

### ***An active trading market for our common stock may not be sustained.***

Our shares of common stock began trading on the NASDAQ Global Select Market on January 30, 2015. Given the limited trading history of our common stock, there is a risk that an active trading market for our shares may not continue to develop or be sustained. If an active market for our common stock is not sustained, it may be difficult for you to sell shares you purchase in this offering without depressing the market price for the shares, or at all.

### ***We have broad discretion in the use of our cash and cash equivalents, including the net proceeds from this offering payable to us, and may not use them effectively.***

Our management will have broad discretion in the application of our cash and cash equivalents, including the net proceeds from this offering payable to us, and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest our cash and cash equivalents, including the net proceeds from this offering, in a manner that does not produce income or that loses value. See "Use of proceeds."

### ***We are an emerging growth company, and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.***

We are an emerging growth company, or EGC, as defined in the JOBS Act. We will remain an EGC until the earlier of: (i) the last day of the fiscal year in which we have total annual gross revenues of \$1 billion or more; (ii) December 31, 2020; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission or SEC, which means the first day of the year following the first year in which the market value of our common stock that is held by non-affiliates exceeds \$700 million as of June 30. For so long as we remain an EGC, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002;



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not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;

reduced disclosure obligations regarding executive compensation; and

exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of reduced reporting burdens in this prospectus. In particular, we have not included all of the executive compensation information that would be required if we were not an EGC. We cannot predict whether investors will find our common stock less attractive if we rely on certain or all of these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, the JOBS Act provides that an EGC may take advantage of an extended transition period for complying with new or revised accounting standards. This allows an EGC to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

***We incur increased costs as a result of operating as a public company, and our management is now required to devote substantial time to new compliance initiatives.***

As a public company we incur, and particularly after we are no longer an EGC we will incur, significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the SEC and NASDAQ have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations have increased our legal and financial compliance costs and will make some activities more time-consuming and costly.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an EGC, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

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*Provisions in our corporate charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.*

Provisions in our corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions also could limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

establish a classified board of directors such that not all members of the board are elected at one time;

allow the authorized number of our directors to be changed only by resolution of our board of directors;

limit the manner in which stockholders can remove directors from the board;

establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;

require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;

limit who may call stockholder meetings;

authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a shareholder rights plan, or so-called poison pill, that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and

require the approval of the holders of at least 75% of the votes that all our stockholders would be entitled to cast to amend or repeal certain provisions of our charter or bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

***Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.***

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

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## **Special note regarding forward-looking statements**

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein contain forward-looking statements. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words may, will, should, expects, plans, anticipates, could, intends, target, projects, contemplates, believes, estimate, continue or the negative of these terms or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus supplement include, among other things, statements about:

the timing, scope or likelihood of regulatory filings and approvals, including timing of our BLA filing for, and final FDA approval of, voretigene neparvovec;

the timing, progress and results of clinical trials for *SPK-CHM*, *SPK-FIX* product candidates and our other product candidates, including statements regarding the timing of initiation and completion of clinical trials, dosing of subjects and the period during which the results of the trials will become available;

our estimates regarding the potential market opportunity for our product candidates;

the initiation, timing, progress and results of future preclinical studies and clinical trials, and our research and development programs for our other product candidates;

our ability to achieve milestones and receive payments under our collaborations;

our plans to develop and commercialize our product candidates;

our commercialization, medical affairs, marketing and manufacturing capabilities and strategy;

the implementation of our business model, strategic plans for our business, product candidates and technology;

the scalability and commercial viability of our proprietary manufacturing processes;

the rate and degree of market acceptance and clinical utility of our product candidates, in particular, and gene therapy in general;

our competitive position;

our intellectual property position;

developments and projections relating to our competitors and our industry;

our ability to maintain and establish collaborations or obtain additional funding;

our expectations related to the use of proceeds from this offering;

our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;

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the impact of government laws and regulations; and

our expectations regarding the time during which we will be an EGC under the JOBS Act.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus supplement, particularly in the Risk factors section, that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments that we may make.

You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, and the documents that we have filed as exhibits to the registration statement, of which this prospectus supplement is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

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## **Use of proceeds**

We estimate that the net proceeds to us of the sale of the common stock that we are offering will be approximately \$125.0 million, assuming a public offering price of \$53.58 per share, which was the last reported sale price of our common stock on the NASDAQ Global Select Market on June 10, 2016, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their option to purchase additional shares in full, we estimate that our net proceeds will be approximately \$151.4 million. We will not receive any of the proceeds from any sale of shares in this offering by the selling stockholder.

We intend to use the net proceeds from this offering, plus, if needed, cash on hand, for: ongoing development of our *SPK-FVIII* program for the treatment of hemophilia A; planning, preparation and infrastructure-build related to the potential launch of voretigene neparvovec in the treatment of RPE65-mediated IRDs; continued development of large-scale manufacturing processes and expansion of our manufacturing capabilities; and non-clinical and clinical development of other pipeline candidates for liver-directed, neurodegenerative and inherited retinal disorders; and for working capital and other general corporate purposes, including in-licenses and potential acquisitions. Based on our current plans, we believe our cash and cash equivalents, together with the net proceeds to us from this offering, will be sufficient to fund our operations into 2019.

We believe opportunities may exist from time to time to expand our current business through acquisitions or in-licenses of complementary products or technologies or acquisitions of companies with complementary products or technologies. While we have no current agreements, commitments or understandings for any specific acquisitions or in-licenses at this time, we may use a portion of the net proceeds for these purposes.

This expected use of net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of, and results from, clinical trials, the potential need to conduct additional clinical trials to obtain approval of our product candidates for all intended indications, as well as any additional collaborations that we may enter into with third parties for our product candidates and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

Pending use of the proceeds as described above, we intend to invest the proceeds in short-term, interest-bearing, investment-grade securities.



Table of Contents**Price range of common stock**

Our common stock has been listed on the NASDAQ Global Select Market since January 30, 2015 and trades under the symbol **ONCE**. Prior to that time, there was no public market for our common stock. The following table sets forth, for the periods indicated, the high and low intraday sales prices of our common stock as reported by the NASDAQ Global Select Market:

	<b>High</b>	<b>Low</b>
<b>Year Ending December 31, 2015</b>		
First Quarter	\$ 79.50	\$ 40.16
Second Quarter	\$ 78.48	\$ 47.01
Third Quarter	\$ 71.75	\$ 36.96
Fourth Quarter	\$ 61.91	\$ 39.62
<b>Year Ending December 31, 2016</b>		
First Quarter	\$ 44.71	\$ 21.20
Second Quarter (through June 10, 2016)	\$ 60.05	\$ 28.65

On June 10, 2016, the last sale price of our common stock as reported on the NASDAQ Global Select Market was \$53.58 per share. As of May 31, 2016, we had approximately 56 holders of record of our common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

**Dividend policy**

We have not declared or paid any cash dividends on our capital stock since our inception. We intend to retain future earnings, if any, to finance the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future.

**Industry and other data**

We obtained the industry, market and competitive position data contained in this prospectus from our own internal estimates and research as well as from industry publications and research, surveys and studies conducted by third parties. Industry publications, studies and surveys generally state that they have been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information.

Table of Contents**Capitalization**

The following table sets forth our cash and cash equivalents and capitalization as of March 31, 2016, as follows:

on an actual basis; and

on an as adjusted basis to give effect to our issuance and sale of 2,500,000 shares of common stock in this offering (assuming no exercise by the underwriters of the option to purchase additional shares) at an assumed public offering price of \$53.58 per share, which was the last reported sale price of our common stock on the NASDAQ Global Select Market on June 10, 2016, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Our capitalization following the closing of this offering will be adjusted based on the actual public offering price and other terms of the offering determined at pricing. You should read the information in this Capitalization section in conjunction with our financial statements and the related notes and the Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the year ended December 31, 2015, which is incorporated by reference in this prospectus supplement.

	<b>As of March 31, 2016</b>	
	<b>Actual</b>	<b>Adjusted</b>
	<b>(unaudited)</b>	
	<b>(in thousands, except</b>	
	<b>share and per share data)</b>	
Cash and cash equivalents	\$ 274,969	\$ 399,949
Common stock, par value \$0.001 per share; 150,000,000 shares authorized, actual and as adjusted; 27,378,812 and 27,369,606 shares issued and outstanding respectively, actual; 29,878,812 and 29,869,606 shares issued and outstanding respectively, as adjusted	27	30
Additional paid-in capital	434,003	558,980
Treasury stock, at cost 9,206 shares at March 31, 2016	(552)	(552)
Accumulated deficit	(154,305)	(154,305)
Total stockholders' equity	279,173	404,153
<b>Total capitalization</b>	<b>\$ 279,173</b>	<b>\$ 404,153</b>

The table above does not include:

4,029,103 shares of common stock issuable upon exercise of stock options outstanding as of March 31, 2016 at a weighted-average exercise price of \$27.02 per share;

1,064,538 shares of common stock available for future issuance as of March 31, 2016 under our 2015 stock incentive plan; and

490,828 additional shares of common stock available for future issuance as of March 31, 2016 under our 2015 employee stock purchase plan.



**Table of Contents****Dilution**

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the public offering price per share and the as adjusted net tangible book value per share of our common stock after this offering.

Our net tangible book value as of March 31, 2016 was approximately \$261.6 million, or \$9.56 per share of common stock. Our net tangible book value is the amount of our total tangible assets less our total liabilities. Net historical tangible book value per share is our net tangible book value divided by the number of shares of common stock outstanding as of March 31, 2016.

After giving effect to the sale of 2,500,000 shares of common stock that we are offering at an assumed public offering price of \$53.58 per share, which was the last reported sale price of our common stock on the NASDAQ Global Select Market on June 10, 2016, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2016 would have been approximately \$386.6 million, or approximately \$12.94 per share. This amount represents an immediate increase in as adjusted net tangible book value of \$3.38 per share to our existing stockholders and an immediate dilution in as adjusted net tangible book value of approximately \$40.64 per share to new investors purchasing shares of common stock in this offering. We determine dilution by subtracting the as adjusted net tangible book value per share after this offering from the amount of cash that a new investor paid for a share of common stock. The following table illustrates this dilution:

Assumed public offering price per share	\$ 53.58
Net tangible book value per share as of March 31, 2016	\$ 9.56
Increase per share attributable to new investors	3.38
As adjusted net tangible book value per share after this offering	12.94
Dilution per share to new investors	\$ 40.64

The table above is based on 27,369,606 shares of common stock outstanding as of March 31, 2016 and does not include:

4,029,103 shares of common stock issuable upon exercise of stock options outstanding as of March 31, 2016 at a weighted-average exercise price of \$27.02 per share;

1,064,538 shares of common stock available for future issuance as of March 31, 2016 under our 2015 stock incentive plan; and

490,828 additional shares of common stock available for future issuance as of March 31, 2016 under our 2015 employee stock purchase plan.

**Table of Contents****Selling stockholder**

The following table sets forth information with respect to the beneficial ownership of our common stock, as of May 31, 2016 by the selling stockholder.

The column entitled "Percentage of shares beneficially owned Before offering" is based on 27,495,507 shares of our common stock outstanding as of May 31, 2016. The column entitled "Percentage of shares beneficially owned After offering" is based on shares of our common stock to be outstanding after this offering, including the 2,500,000 shares of our common stock that we are selling in this offering and the 1,000,000 shares of our common stock that the selling stockholder is selling in this offering.

The number of shares beneficially owned by the selling stockholder is determined under rules issued by the SEC and includes voting or investment power with respect to securities. The address of the selling stockholder is 34th Civic Center Boulevard, Philadelphia, PA 19104.

The information in the table below with respect to the selling stockholder has been obtained from the selling stockholder. When we refer to the selling stockholder in this prospectus, we mean the entity listed in the table below as offering shares, as well as the pledgees, donees, assignees, transferees, successors and others who may hold any of the selling stockholder's interests.

Name of beneficial owner	Shares beneficially owned before offering		Number of shares offered	Shares beneficially owned after offering		Shares beneficially owned after offering assuming underwriters exercise option in full	
	Number	%		Number	%	Number	%
	CHOP Foundation(1)	7,799,481		28.3	1,000,000	6,799,481	22.6

- (1) Consists of (a) 7,767,379 shares of common stock owned by the CHOP Foundation, (b) 18,602 shares of common stock underlying options that are exercisable as of May 31, 2016 or will become exercisable within 60 days after such date issued to Steven Altschuler as a nominee of the CHOP Foundation and (c) 13,500 shares of shares of common stock underlying options that are exercisable as of May 31, 2016 or will become exercisable within 60 days after such date issued to A. Lorris Betz as a nominee of the CHOP Foundation. The CHOP Foundation's board of trustees, or a committee designated by the board of trustees, has voting and investment power of their shares.

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## **Material U.S. federal income and estate tax considerations for non-U.S. holders of common stock**

The following is a discussion of the material U.S. federal income and estate tax considerations applicable to non-U.S. holders with respect to their ownership and disposition of shares of our common stock purchased in this offering. For purposes of this discussion, a non-U.S. holder means a beneficial owner (other than a partnership or other pass-through entity) of our common stock that is not for U.S. federal income tax purposes:

an individual who is a citizen or resident of the United States;

a corporation, or any other organization taxable as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States or of any state thereof or the District of Columbia;

an estate, the income of which is subject to U.S. federal income tax regardless of its source; or

a trust if (1) a U.S. court is able to exercise primary supervision over the trust's administration and one or more U.S. persons have the authority to control all of the trust's substantial decisions or (2) the trust has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a U.S. person.

This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their common stock through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her or its own tax advisor regarding the tax consequences of acquiring, holding and disposing of our common stock through a partnership or other pass-through entity, as applicable.

This discussion is based on current provisions of the U.S. Internal Revenue Code of 1986, as amended, which we refer to as the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus supplement and all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus supplement. There can be no assurance that the Internal Revenue Service, which we refer to as the IRS, will not challenge one or more of the tax consequences described herein. We assume in this discussion that a non-U.S. holder holds shares of our common stock as a capital asset, generally property held for investment for U.S. federal income tax purposes.

This discussion does not address all aspects of U.S. federal income and estate taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any aspects of U.S. state and local or non-U.S. taxes, the alternative minimum tax or the Medicare tax on net investment income. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

insurance companies;

tax-exempt organizations;

financial institutions;

brokers or dealers in securities;

pension plans;

controlled foreign corporations;

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passive foreign investment companies;

persons deemed to sell our common stock under the constructive sale provisions of the Code;

owners that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment or who have elected to mark securities to market; and

certain former citizens or residents of the United States.

**This discussion is for information only and is not, and is not intended to be, legal or tax advice. All prospective non-U.S. holders of our common stock should consult their own tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock.**

## **Distributions on our common stock**

As discussed under Dividend policy above, we do not expect to make cash dividends to holders of our common stock in the foreseeable future. If we make distributions in respect of our common stock, those distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles, subject to the tax treatment described in the following paragraphs of this section. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in Gain on sale, exchange or other disposition of our common stock. Any distributions will also be subject to the discussion below under the sections titled Backup withholding and information reporting and FATCA.

Dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements (generally including provision of a valid IRS Form W-8ECI (or applicable successor form) certifying that the dividends are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States). However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is classified as a corporation for U.S. federal income tax purposes may also, under certain circumstances, be subject to an additional branch profits tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or successor form) and satisfy applicable certification and other requirements. Non-U.S. holders are urged to consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty and the specific methods available to them to satisfy these requirements.

A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim for a refund with the IRS.



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### **Gain on sale, exchange or other disposition of our common stock**

In general (subject to the discussion below under the sections titled "Backup withholding and information reporting" and "FATCA"), a non-U.S. holder will not be subject to any U.S. federal income tax or withholding tax on any gain realized upon such holder's sale, exchange or other disposition of shares of our common stock unless:

the gain is effectively connected with the non-U.S. holder's conduct of a U.S. trade or business and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed base maintained by such non-U.S. holder in the United States, in which case the non-U.S. holder generally will be taxed on a net income basis at the graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code) with respect to the gain and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in "Distributions on our common stock" also may apply;

the non-U.S. holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence) on the net gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder recognized in the taxable year of the disposition; or

we are, or have been, at any time during the five-year period preceding such disposition (or the non-U.S. holder's holding period, if shorter) a U.S. real property holding corporation, unless our common stock is regularly traded on an established securities market and the non-U.S. holder holds no more than 5% of our outstanding common stock, directly, indirectly or constructively, during the shorter of the five-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. If we are determined to be a U.S. real property holding corporation and the foregoing exception does not apply, then a purchaser may withhold 15% of the proceeds payable to a non-U.S. holder from a sale of our common stock (if our common stock is not regularly traded on an established securities market) and the non-U.S. holder generally will be taxed on its net gain derived from the disposition at the graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code). Generally, a corporation is a U.S. real property holding corporation only if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation, or that we are likely to become one in the future. We also expect that our common stock will continue to be regularly traded on an established securities market, although no assurance can be provided.

### **U.S. federal estate tax**

Shares of our common stock that are owned or treated as owned at the time of death by an individual who is not a citizen or resident of the United States, as specifically defined for U.S. federal estate tax purposes, are considered U.S. *situs* assets and will be included in the individual's gross estate for U.S. federal estate tax purposes. Such shares, therefore, may be subject to U.S. federal estate tax, unless an applicable estate tax or other treaty provides otherwise.

### **Backup withholding and information reporting**

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. Non-U.S. holders generally will have to comply with specific certification procedures to establish that the holder is not a

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United States person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Generally, a holder will comply with such procedures if it provides a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable Form W-8), or otherwise meets documentary evidence requirements for establishing that it is a non-U.S. holder, or otherwise establishes an exemption. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above in Distributions on our common stock, generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding generally will apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them.

Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

## **FATCA**

Provisions of the Code commonly known as the Foreign Account Tax Compliance Act, or FATCA, generally impose a U.S. federal withholding tax at a rate of 30% on payments of dividends on, or gross proceeds from the sale or other disposition of, our common stock paid to a foreign entity unless: (i) if the foreign entity is a foreign financial institution, such foreign entity undertakes certain due diligence, reporting, withholding and certification obligations; (ii) if the foreign entity is not a foreign financial institution, such foreign entity identifies certain of its U.S. investors, if any; or (iii) the foreign entity is otherwise exempt under FATCA.

Withholding under FATCA generally (1) applies to payments of dividends on our common stock, and (2) will apply to payments of gross proceeds from a sale or other disposition of our common stock made after December 31, 2018. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of the tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their own tax advisors regarding the possible implications of FATCA on their investment in our common stock and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30% withholding tax under FATCA.

**The preceding discussion of material U.S. federal tax considerations is for information only. It is not legal or tax advice. Prospective investors should consult their own tax advisors regarding the particular U.S. federal, state, local and non-U.S. tax consequences of purchasing, holding and disposing of our common stock, including the consequences of any proposed changes in applicable laws.**

Table of Contents**Underwriting**

We are offering the shares of common stock described in this prospectus through a number of underwriters. J.P. Morgan Securities LLC is acting as representative of the underwriters. We and the selling stockholder intend to enter into an underwriting agreement with the representative. Subject to the terms and conditions of the underwriting agreement, we and the selling stockholder have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus, the number of shares of common stock listed next to its name in the following table:

Name	Number of shares
J.P. Morgan Securities LLC	
Cowen and Company LLC	
<b>Total</b>	<b>3,500,000</b>

The underwriters are committed to purchase all of the common shares offered by us and the selling stockholder if they purchase any shares. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the common shares directly to the public at the public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of \$ \_\_\_\_\_ per share. Any such dealers may resell shares to certain other brokers or dealers at a discount of up to \$ \_\_\_\_\_ per share from the public offering price. After the public offering of the shares, the offering price and other selling terms may be changed by the underwriters. Sales of shares made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to 525,000 additional shares of common stock from us. The underwriters have 30 days from the date of this prospectus to exercise this option. If any shares are purchased with this option, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us and the selling stockholder per share of common stock. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Per share	Without option exercise	Total With full option exercise
Public offering price	\$	\$	\$
Underwriting discounts and commissions to be paid by:			
Us:	\$	\$	\$
The selling stockholder	\$	\$	\$
Proceeds, before expenses, to:			
Us:	\$	\$	\$
The selling stockholder	\$	\$	\$



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We estimate that the total expenses of this offering payable by us and the selling stockholder, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately \$ . We have agreed to reimburse the underwriters for expenses of up to \$ related to clearance of this offering with the Financial Industry Regulatory Authority, Inc., or FINRA. The underwriters have agreed to reimburse us and the selling stockholder for certain expenses relating to this offering.

A prospectus in electronic format may be made available on the websites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representative to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed that we will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, or file with the SEC a registration statement under the Securities Act relating to, any shares of our common stock or any securities convertible into or exercisable or exchangeable for any shares of our common stock, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing or (ii) enter into any swap or other agreement that transfers all or a portion of any of the economic consequences of ownership of any shares of common stock or any such other securities (regardless of whether any of the transactions described above are to be settled by the delivery of shares of common stock or such other securities, in cash or otherwise), in each case without the prior written consent of J.P. Morgan Securities LLC for a period of 60 days after the date of this prospectus, other than (A) the shares of our common stock to be sold hereunder; (B) any shares of our common stock issued upon the exercise of options granted under our existing management incentive plans; (C) any options and other awards granted under our existing management incentive plans; (D) our filing of a registration statement on Form S-8 or a successor form thereto relating to the shares of our common stock granted pursuant to or reserved for issuance under our existing management incentive plans; and (E) shares of our common stock or other securities issued in connection with a transaction that includes a commercial relationship (including joint ventures, marketing or distribution arrangements, collaboration agreements or intellectual property license agreements) or any acquisition of assets or not less than a majority or controlling portion of the equity of another entity; provided that the aggregate number of shares of our common stock issued pursuant to clause (E) shall not exceed 10.0% of the total number of outstanding shares of our common stock immediately following the issuance and sale of the underwritten shares pursuant to the underwriting agreement; provided, further, the recipient of any such shares of our common stock and securities issued pursuant to clauses (C) or (E) during the 60-day restricted period described above shall enter into an agreement substantially in the form described below.

Our directors, executive officers and certain of our stockholders have entered into lock-up agreements with the underwriters pursuant to which each of these persons or entities, with limited exceptions, for a period of 60 days after the date of this prospectus, may not, without the prior written consent of J.P. Morgan Securities LLC: (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for our common stock (including, without limitation, common stock or such other securities which may be deemed to be beneficially owned by such directors, executive officers, managers and members in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant), or publicly disclose the intention to make my offer, sale, pledge, disposition or filing; (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of shares of our common stock or such other securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of common stock or such other securities, in cash or otherwise; or (3) make any

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demand for or exercise any right with respect to the registration of any shares of our common stock or any security convertible into or exercisable or exchangeable for shares of our common stock in each case subject to certain exceptions, including: (A) shares of our common stock to be sold pursuant to the underwriting agreement; (B) transfers of shares of our common stock or other securities as bona fide gifts; (C) transfers or dispositions of shares of our common stock or other securities to any trust for the direct or indirect benefit of the director, officer or stockholder or the immediate family members of such person in a transaction not involving a disposition for value; (D) transfers or dispositions of shares of our common stock or other securities to any affiliate of the director, officer or stockholder or to any investment fund or other entity controlled or managed by such director, officer or stockholder or under common control of such director, officer or stockholder, or if such director, officer or stockholder is an investment company registered under the Investment Company Act of 1940, as amended (a Mutual Fund ), pursuant to a merger or reorganization with or into another Mutual Fund that shares the same investment adviser registered pursuant to the requirements of the Investment Advisers Act of 1940, as amended; (E) transfers or dispositions of shares of our common stock or other securities by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the director, officer or stockholder; (F) distributions of shares of our common stock or other securities to any of the director s, officer s or stockholder s partners, members or stockholders; (G) transfers of shares of our common stock or other securities in connection with the conversion of our outstanding preferred stock into shares of our common stock in connection with the consummation of this offering, it being understood that such shares of common stock received by the director, officer or stockholder upon such conversion will be subject to these restrictions; (H) transfers or other dispositions prior to the first public filing of this prospectus with a price range set forth on the cover; and certain other exceptions. In the case of any transfer, disposition or distribution pursuant to clause (B), (C), (D), (E), (F) or (H), each donee or distributee shall execute and deliver to J.P. Morgan Securities LLC a lock-up agreement. In addition, in the case of any transfer, disposition or distribution pursuant to clause (B), (C), (D), (E), (F) or (H), no filing by any party under the Exchange Act, or other public announcement reporting a reduction in the beneficial ownership of shares of our common stock held by the director, officer or stockholder, shall be required or voluntarily made in connection with such transfer or distribution, other than a filing on a Form 5 made after the expiration of the 60-day period referred to above and any required Schedule 13G (or 13G/A) or 13F filing. In addition, notwithstanding the foregoing restrictions, the director, officer or stockholder may: (i) exercise an option to purchase shares of our common stock granted under any of our stock incentive plans or stock purchase plans, provided that the underlying shares of common stock continue to be subject to the restrictions on transfer set forth in the lock-up agreement; (ii) transfer such director s, officer s or stockholder s common stock or any security convertible into or exercisable or exchangeable for common stock to us pursuant to any contractual arrangement in effect on the date of the lock-up agreement that provides for the repurchase of such director s, officer s or stockholder s shares of our common stock or such other securities by us, pursuant to the terms of any of our stock incentive plans or stock purchase plans to satisfy tax withholding obligations or in connection with the termination of such director s or officer s employment with us; (iii) effect transactions pursuant to a trading plan established pursuant to Rule 10b5-1 under the Exchange Act in existence as of the date of this prospectus; (iv) establish a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of our common stock, provided that such plan does not provide for any transfers of shares of our common stock, and no filing under the Exchange Act or other public announcement shall be required or voluntarily made by the director, officer or stockholder or any other person in connection therewith, in each case during the 60-day restricted period pursuant to the lock-up agreement; and (v) transfer or dispose of shares of common stock acquired in the offering, subject to certain restrictions with respect to company directed shares, or on the open market following the offering, provided that certain limitations on filings under the Exchange Act or other public announcements reporting a reduction in the beneficial ownership of common stock held by the director, officer or stockholder apply in connection with such transfer or disposition.

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We and the selling stockholder have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

Our common stock is listed on the NASDAQ Global Select Market under the symbol ONCE.

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of common stock in the open market for the purpose of preventing or retarding a decline in the market price of the common stock while this offering is in progress. These stabilizing transactions may include making short sales of the common stock, which involves the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering, and purchasing shares of common stock on the open market to cover positions created by short sales. Short sales may be covered shorts, which are short positions in an amount not greater than the underwriters' option to purchase additional shares referred to above, or may be naked shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their option, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the option. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act of 1933, they also may engage in other activities that stabilize, maintain or otherwise affect the price of the common stock, including the imposition of penalty bids. This means that if the representative of the underwriters purchases common stock in the open market in stabilizing transactions or to cover short sales, the representative can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common stock or preventing or retarding a decline in the market price of the common stock and, as a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on the NASDAQ Global Select Market in the over-the-counter market or otherwise.

In addition, in connection with this offering certain of the underwriters (and selling group members) may engage in passive market making transactions in our common stock on the Nasdaq Stock Market prior to the pricing and completion of this offering. Passive market making consists of displaying bids on the Nasdaq Stock Market no higher than the bid prices of independent market makers and making purchases at prices no higher than these independent bids and effected in response to order flow. Net purchases by a passive market maker on each day are generally limited to a specified percentage of the passive market maker's average daily trading volume in the common stock during a specified period and must be discontinued when such limit is reached. Passive market making may cause the price of our common stock to be higher than the price that otherwise would exist in the open market in the absence of these transactions. If passive market making is commenced, it may be discontinued at any time.

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this

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prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates, and may provide from time to time in the future, certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they may receive customary fees and commissions. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

This document is only being distributed to, and is only directed at: (i) persons who are outside the United Kingdom; (ii) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the Order); or (iii) high net worth entities, and other persons to whom it may lawfully be communicated, falling with Article 49(2)(a) to (d) of the Order (all such persons together being referred to as relevant persons). The securities are only available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such securities will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

## **Selling restrictions**

### ***European economic area***

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive, each, a Relevant Member State, from and including the date on which the European Union Prospectus Directive, the EU Prospectus Directive, was implemented in that Relevant Member State, the Relevant Implementation Date, an offer of securities described in this prospectus may not be made to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the EU Prospectus Directive, except that, with effect from and including the Relevant Implementation Date, an offer of securities described in this prospectus may be made to the public in that Relevant Member State at any time:

to any legal entity which is a qualified investor as defined under the EU Prospectus Directive;

to fewer than 150 natural or legal persons (other than qualified investors as defined in the EU Prospectus Directive); or

in any other circumstances falling within Article 3(2) of the EU Prospectus Directive, provided that no such offer of securities described in this prospectus shall result in a requirement for the publication by us of a prospectus pursuant to Article 3 of the EU Prospectus Directive. For the purposes of this provision, the expression an offer of securities to the public in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe for the securities, as the same may be varied in that Member State by any measure implementing the EU Prospectus Directive in that Member State. The expression EU Prospectus Directive means Directive 2003/71/EC (and amendments thereto, including Directive 2010/73/EU) and includes any relevant implementing measure in each Relevant Member State.



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### ***United Kingdom***

Each of the underwriters has:

only communicated or caused to be communicated and only will communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, or FSMA) received by it in connection with the issue or sale of the securities in circumstances in which Section 21(1) of the FSMA does not apply to us; and

complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

### ***Switzerland***

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document, nor any other offering or marketing material relating to the shares or the offering, may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares has been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, or FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

### ***Canada***

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

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*United Arab Emirates*

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority, or DFSA. This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

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## **Legal matters**

The validity of the shares of common stock offered hereby will be passed upon for us by Wilmer Cutler Pickering Hale and Dorr LLP, New York, New York. Davis Polk & Wardwell LLP, New York, New York, has acted as counsel for the underwriters in connection with certain legal matters related to this offering.

## **Experts**

The financial statements of Spark Therapeutics, Inc. (formerly Spark Therapeutics, LLC) as of December 31, 2014 and 2015, and for the period from March 13, 2013 (inception) through December 31, 2013 and the years ended December 31, 2014 and 2015, have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

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## **Where you can find more information**

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Copies of certain information filed by us with the SEC are also available on our website at [www.sparktx.com](http://www.sparktx.com). Our website is not a part of this prospectus and is not incorporated by reference in this prospectus. You may also read and copy any document we file at the SEC's Public Reference Room, 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

This prospectus supplement is part of a registration statement we filed with the SEC. This prospectus supplement and the accompanying prospectus omit some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our consolidated subsidiaries and the securities we are offering. Statements in this prospectus supplement and in the accompanying prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

## **Incorporation of certain documents by reference**

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below (File No. 001-36819) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) between the date of the initial registration statement and the effectiveness of the registration statement and following the effectiveness of the registration statement until the offering of the securities under the registration statement is terminated or completed:

Annual Report on Form 10-K for the fiscal year ended December 31, 2015 filed with the SEC on March 14, 2016, including the information specifically incorporated by reference into the Annual Report on Form 10-K from our definitive proxy statement for the 2016 Annual Meeting of Stockholders;

Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2016 filed with the SEC on May 6, 2016;

Current Reports on Form 8-K filed with the SEC January 6, 2016, January 7, 2016, February 5, 2016, May 19, 2016 and June 3, 2016; and

The description of our common stock contained in our Registration Statement on Form 8-A filed on January 27, 2015, including any amendments or reports filed for the purpose of updating such description.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

3737 Market Street, Suite 1300

Attn: Investor Relations

Philadelphia, PA 19104

1-855-772-7589



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**PROSPECTUS**

**Spark Therapeutics, Inc.**

**Debt Securities**

**Common Stock**

**Preferred Stock**

**Depositary Shares**

**Purchase Contracts**

**Purchase Units**

**Warrants**

We may offer and sell securities from time to time in one or more offerings. This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide the specific terms of these securities in supplements to this prospectus. The prospectus supplements will also describe the specific manner in which these securities will be offered and may also supplement, update or amend information contained in this document. This prospectus may be used to offer shares of our common stock for the account of persons other than us, whom we refer to in this prospectus as selling stockholders. You should read this prospectus and any applicable prospectus supplement before you invest.

We or any selling stockholders may offer these securities in amounts, at prices and on terms determined at the time of offering. The securities may be sold directly to you, through agents, or through underwriters and dealers. If agents, underwriters or dealers are used to sell the securities, we will name them and describe their compensation in a prospectus supplement. Unless otherwise set forth in a prospectus supplement, we will not receive any proceeds from the sale of common stock by any selling stockholders.

Our common stock is listed on The NASDAQ Global Select Market under the symbol **ONCE**. On June 10, 2016, the last reported sale price of our common stock on The NASDAQ Global Select Market was \$53.58 per share.

**Investing in these securities involves certain risks. See **Risk Factors** included in any accompanying prospectus supplement and in the documents incorporated by reference in this prospectus for a discussion of the factors you should carefully consider before deciding to purchase these securities.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.**

**The date of this prospectus is June 13, 2016**

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**ABOUT THIS PROSPECTUS**

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, which we refer to as the SEC, utilizing a shelf registration process. Under this shelf registration process, we may from time to time sell any combination of the securities described in this prospectus in one or more offerings, and selling stockholders may from time to time sell shares of common stock described in this prospectus in one or more offering.

This prospectus provides you with a general description of the securities we or selling stockholders may offer. Each time we or selling stockholders sell securities, we will provide one or more prospectus supplements that will contain specific information about the terms of the offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and the accompanying prospectus supplement together with the additional information described under the heading **Where You Can Find More Information** beginning on page 2 of this prospectus.

We have not authorized anyone to provide you with information different from that contained in or incorporated by reference in this prospectus, any accompanying prospectus supplement or in any related free writing prospectus filed by us with the SEC. We do not take any responsibility for, and cannot provide any assurance as to the reliability of, any information other than the information contained or incorporated by reference in this prospectus, any accompanying prospectus supplement or in any related free writing prospectus filed by us with the SEC. This prospectus and any accompanying prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus or such accompanying prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any prospectus supplement, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Unless the context otherwise indicates, references in this prospectus to **Spark**, **we**, **our** and **us** refer, collectively, to Spark Therapeutics, Inc., a Delaware corporation.

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**WHERE YOU CAN FIND MORE INFORMATION**

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Copies of certain information filed by us with the SEC are also available on our website at [www.sparktx.com](http://www.sparktx.com). Our website is not a part of this prospectus and is not incorporated by reference in this prospectus. You may also read and copy any document we file at the SEC's Public Reference Room, 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

This prospectus is part of a registration statement we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

**INCORPORATION BY REFERENCE**

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below (File No. 001-36819) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) until the offering of the securities under the registration statement is terminated or completed:

Annual Report on Form 10-K for the fiscal year ended December 31, 2015, including the information specifically incorporated by reference into the Annual Report on Form 10-K from our definitive proxy statement for the 2016 Annual Meeting of Stockholders;

Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2016

Current Reports on Form 8-K filed January 6, 2016, January 7, 2016, February 5, 2016, May 19, 2016 and June 3, 2016; and

The description of our common stock contained in our Registration Statement on Form 8-A filed on January 27, 2015, including any amendments or reports filed for the purpose of updating such description. You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

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3737 Market Street, Suite 1300

Attn: Investor Relations

Philadelphia, PA 19104

1-855-772-7589

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**FORWARD-LOOKING STATEMENTS**

This prospectus and the information incorporated by reference in this prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act.

All statements, other than statements of historical facts, contained or incorporated by reference in this prospectus, including statements regarding our future results of operations and financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. The words may, will, should, expects, plans, anticipates, could, intends, target, projects, contemplates, believes, estimates, or the negative of these terms or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included, or incorporated by reference, in this prospectus, particularly in the Risk Factors section, that could cause actual results or events to differ materially from the forward-looking statements that we make. You should also carefully review the risk factors and cautionary statements described in the other documents we file from time to time with the SEC, specifically our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. You should read this prospectus and the documents that we have filed as exhibits to this registration statement completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

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**SPARK THERAPEUTICS, INC.**

We are a leader in the field of gene therapy, seeking to transform the lives of patients suffering from debilitating genetic diseases by developing one-time, life-altering treatments. The goal of gene therapy is to overcome the effects of a malfunctioning, disease-causing gene. Our product candidates have the potential to provide long-lasting effects, dramatically and positively changing the lives of patients with conditions where no, or only palliative, therapies exist. Our initial focus is on treating orphan diseases, and we recently reported statistically significant results in a pivotal Phase 3 clinical trial of our first product candidate targeting rare genetic blinding conditions, which has received both breakthrough therapy and orphan product designation.

We also have built a pipeline of product candidates targeting multiple rare blinding conditions, hematologic disorders and neurodegenerative diseases. Our pipeline includes: a product candidate targeting another rare genetic blinding condition currently in a Phase 1/2 clinical trial; product candidates for the treatment of hemophilia with a hemophilia B product candidate currently in a Phase 1/2 clinical trial in collaboration with Pfizer Inc., or Pfizer, and a preclinical product candidate for hemophilia A to which we retain global commercialization rights; a product candidate for the treatment of TPP1 deficiency, a form of Batten disease, for which we are currently conducting Investigational New Drug application, or IND, enabling studies; and other ophthalmic, hematologic and neurodegenerative disease programs.

Our principal executive offices are located at 3737 Market Street Suite 1300 Philadelphia, PA, and our telephone number is (855) 772-7589.

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**CONSOLIDATED RATIOS OF EARNINGS TO FIXED CHARGES AND RATIOS OF EARNINGS  
TO COMBINED FIXED CHARGES AND PREFERRED STOCK DIVIDENDS**

The following table sets forth our ratio of earnings to fixed charges for each of the periods indicated. For purposes of calculating the ratios in the table below, earnings consist of net loss plus fixed charges. Fixed charges consist of an estimate of the interest within rental expense.

	Three months ended March 31, 2016	Year ended December 31, 2015	Year ended December 31, 2014	Year ended March 13, 2013 (inception) to December 31, 2013
Ratios of earnings to fixed charges (1)(2)	N/A	N/A	N/A	N/A
Ratios of earnings to combined fixed charges and preferred stock dividends (1)(3)	N/A	N/A	N/A	N/A

- (1) Due to our losses for the three months ended March 31, 2016, the years ended December 31, 2015 and 2014 and the period from March 31, 2013 (inception) to December 31, 2013, the ratio coverage was less than 1:1.
- (2) We would have needed to generate additional earnings of \$25.6 million, \$47.1 million, \$24.3 million and \$57.3 million, respectively, to cover our fixed charges in such periods.
- (3) We would have needed to generate additional earnings of \$25.6 million, \$47.8 million, \$25.0 million and \$57.3 million, respectively, to cover our fixed charges in such periods.

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**USE OF PROCEEDS**

We intend to use the net proceeds from the sale of any securities offered under this prospectus for working capital, general and administrative expenses, internal research and development expenses and other general corporate purposes, unless otherwise indicated in the applicable prospectus supplement. General corporate purposes may include the acquisition of companies or businesses, repayment and refinancing of debt, working capital and capital expenditures. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

Unless otherwise set forth in a prospectus supplement, we will not receive any proceeds from the sale of common stock by any selling stockholders.

**SELLING STOCKHOLDERS**

In addition to covering the offering of the securities by us, this prospectus covers the offering for resale of common stock by selling stockholders. Information about selling stockholders, if any, will be set forth in a prospectus supplement, in an amendment to the registration statement of which this prospectus is a part or in other filings we make with the SEC under the Exchange Act, which are incorporated by reference.

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**DESCRIPTION OF DEBT SECURITIES**

We may offer debt securities which may be senior or subordinated. We refer to the senior debt securities and the subordinated debt securities collectively as debt securities. The following description summarizes the general terms and provisions of the debt securities. We will describe the specific terms of the debt securities and the extent, if any, to which the general provisions summarized below apply to any series of debt securities in the prospectus supplement relating to the series and any applicable free writing prospectus that we authorize to be delivered. When we refer to the Company, we, our, and us in this section, we mean Spark Therapeutics, Inc. excluding, unless the context otherwise requires or as otherwise expressly stated, our subsidiaries.

We may issue senior debt securities from time to time, in one or more series under a senior indenture to be entered into between us and a senior trustee to be named in a prospectus supplement, which we refer to as the senior trustee. We may issue subordinated debt securities from time to time, in one or more series under a subordinated indenture to be entered into between us and a subordinated trustee to be named in a prospectus supplement, which we refer to as the subordinated trustee. The forms of senior indenture and subordinated indenture are filed as exhibits to the registration statement of which this prospectus forms a part. Together, the senior indenture and the subordinated indenture are referred to as the indentures and, together, the senior trustee and the subordinated trustee are referred to as the trustees. This prospectus briefly outlines some of the provisions of the indentures. The following summary of the material provisions of the indentures is qualified in its entirety by the provisions of the indentures, including definitions of certain terms used in the indentures. Wherever we refer to particular sections or defined terms of the indentures, those sections or defined terms are incorporated by reference in this prospectus or the applicable prospectus supplement. You should review the indentures that are filed as exhibits to the registration statement of which this prospectus forms a part for additional information.

None of the indentures will limit the amount of debt securities that we may issue. The applicable indenture will provide that debt securities may be issued up to an aggregate principal amount authorized from time to time by us and may be payable in any currency or currency unit designated by us or in amounts determined by reference to an index.

**General**

The senior debt securities will constitute our unsecured and unsubordinated general obligations and will rank pari passu with our other unsecured and unsubordinated obligations. The subordinated debt securities will constitute our unsecured and subordinated general obligations and will be junior in right of payment to our senior indebtedness (including senior debt securities), as described under the heading Certain Terms of the Subordinated Debt Securities Subordination. The debt securities will be structurally subordinated to all existing and future indebtedness and other liabilities of our subsidiaries unless such subsidiaries expressly guarantee such debt securities.

The debt securities will be our unsecured obligations. Any secured debt or other secured obligations will be effectively senior to the debt securities to the extent of the value of the assets securing such debt or other obligations.

The applicable prospectus supplement and/or free writing prospectus will include any additional or different terms of the debt securities of any series being offered, including the following terms:

the title and type of the debt securities;



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whether the debt securities will be senior or subordinated debt securities, and, with respect to debt securities issued under the subordinated indenture the terms on which they are subordinated;

the aggregate principal amount of the debt securities;

the price or prices at which we will sell the debt securities;

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the maturity date or dates of the debt securities and the right, if any, to extend such date or dates;

the rate or rates, if any, per year, at which the debt securities will bear interest, or the method of determining such rate or rates;

the date or dates from which such interest will accrue, the interest payment dates on which such interest will be payable or the manner of determination of such interest payment dates and the related record dates;

the right, if any, to extend the interest payment periods and the duration of that extension;

the manner of paying principal and interest and the place or places where principal and interest will be payable;

provisions for a sinking fund, purchase fund or other analogous fund, if any;

any redemption dates, prices, obligations and restrictions on the debt securities;

the currency, currencies or currency units in which the debt securities will be denominated and the currency, currencies or currency units in which principal and interest, if any, on the debt securities may be payable;

any conversion or exchange features of the debt securities;

whether and upon what terms the debt securities may be defeased;

any events of default or covenants in addition to or in lieu of those set forth in the indenture;

whether the debt securities will be issued in definitive or global form or in definitive form only upon satisfaction of certain conditions;

whether the debt securities will be guaranteed as to payment or performance;

any special tax implications of the debt securities; and

any other material terms of the debt securities.

When we refer to principal in this section with reference to the debt securities, we are also referring to premium, if any.

We may from time to time, without notice to or the consent of the holders of any series of debt securities, create and issue further debt securities of any such series ranking equally with the debt securities of such series in all respects (or in all respects other than (1) the payment of interest accruing prior to the issue date of such further debt securities or (2) the first payment of interest following the issue date of such further debt securities). Such further debt securities may be consolidated and form a single series with the debt securities of such series and have the same terms as to status, redemption or otherwise as the debt securities of such series.

You may present debt securities for exchange and you may present debt securities for transfer in the manner, at the places and subject to the restrictions set forth in the debt securities and the applicable prospectus supplement. We will provide you those services without charge, although you may have to pay any tax or other governmental charge payable in connection with any exchange or transfer, as set forth in the indenture.

Debt securities may bear interest at a fixed rate or a floating rate. Debt securities bearing no interest or interest at a rate that at the time of issuance is below the prevailing market rate (original issue discount securities) may be sold at a discount below their stated principal amount. U.S. federal income tax considerations applicable to any such discounted debt securities or to certain debt securities issued at par which are treated as having been issued at a discount for U.S. federal income tax purposes will be described in the applicable prospectus supplement.

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We may issue debt securities with the principal amount payable on any principal payment date, or the amount of interest payable on any interest payment date, to be determined by reference to one or more currency exchange rates, securities or baskets of securities, commodity prices or indices. You may receive a payment of principal on any principal payment date, or a payment of interest on any interest payment date, that is greater than or less than the amount of principal or interest otherwise payable on such dates, depending on the value on such dates of the applicable currency, security or basket of securities, commodity or index. Information as to the methods for determining the amount of principal or interest payable on any date, the currencies, securities or baskets of securities, commodities or indices to which the amount payable on such date is linked and certain related tax considerations will be set forth in the applicable prospectus supplement.

### **Certain Terms of the Senior Debt Securities**

*Covenants.* Unless we indicate otherwise in a prospectus supplement, the senior debt securities will not contain any financial or restrictive covenants, including covenants restricting either us or any of our subsidiaries from incurring, issuing, assuming or guaranteeing any indebtedness secured by a lien on any of our or our subsidiaries' property or capital stock, or restricting either us or any of our subsidiaries from entering into sale and leaseback transactions.

*Consolidation, Merger and Sale of Assets.* Unless we indicate otherwise in a prospectus supplement, we may not consolidate with or merge into any other person, in a transaction in which we are not the surviving corporation, or convey, transfer or lease our properties and assets substantially as an entirety to any person, in either case, unless:

the successor entity, if any, is a U.S. corporation, limited liability company, partnership or trust (subject to certain exceptions provided for in the senior indenture);

the successor entity assumes our obligations on the senior debt securities and under the senior indenture;

immediately after giving effect to the transaction, no default or event of default shall have occurred and be continuing; and

certain other conditions are met.

*No Protection in the Event of a Change in Control.* Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the senior debt securities will not contain any provisions that may afford holders of the senior debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control).

*Events of Default.* Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the following are events of default under the senior indenture for any series of senior debt securities:

failure to pay interest on any senior debt securities of such series when due and payable, if that default continues for a period of 90 days (or such other period as may be specified for such series);

failure to pay principal on the senior debt securities of such series when due and payable whether at maturity, upon redemption, by declaration or otherwise (and, if specified for such series, the continuance of such failure for a specified period);

default in the performance of or breach of any of our covenants or agreements in the senior indenture applicable to senior debt securities of such series, other than a covenant breach which is specifically dealt with elsewhere in the senior indenture, and that default or breach continues for a period of 90 days after we receive written notice from the trustee or from the holders of 25% or more in aggregate principal amount of the senior debt securities of such series;

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certain events of bankruptcy or insolvency, whether or not voluntary; and

any other event of default provided for in such series of senior debt securities as may be specified in the applicable prospectus supplement.

The default by us under any other debt, including any other series of debt securities, is not a default under the senior indenture.

If an event of default other than an event of default specified in the fourth bullet point above occurs with respect to a series of senior debt securities and is continuing under the senior indenture, then, and in each such case, either the trustee or the holders of not less than 25% in aggregate principal amount of such series then outstanding under the senior indenture (each such series voting as a separate class) by written notice to us and to the trustee, if such notice is given by the holders, may, and the trustee at the request of such holders shall, declare the principal amount of and accrued interest on such series of senior debt securities to be immediately due and payable, and upon this declaration, the same shall become immediately due and payable.

If an event of default specified in the fourth bullet point above occurs and is continuing, the entire principal amount of and accrued interest on each series of senior debt securities then outstanding shall become immediately due and payable.

Unless otherwise specified in the prospectus supplement relating to a series of senior debt securities originally issued at a discount, the amount due upon acceleration shall include only the original issue price of the senior debt securities, the amount of original issue discount accrued to the date of acceleration and accrued interest, if any.

Upon certain conditions, declarations of acceleration may be rescinded and annulled and past defaults may be waived by the holders of a majority in aggregate principal amount of all the senior debt securities of such series affected by the default, each series voting as a separate class. Furthermore, subject to various provisions in the senior indenture, the holders of a majority in aggregate principal amount of a series of senior debt securities, by notice to the trustee, may waive an existing default or event of default with respect to such senior debt securities and its consequences, except a default in the payment of principal of or interest on such senior debt securities or in respect of a covenant or provision of the senior indenture which cannot be modified or amended without the consent of the holders of each such senior debt security. Upon any such waiver, such default shall cease to exist, and any event of default with respect to such senior debt securities shall be deemed to have been cured, for every purpose of the senior indenture; but no such waiver shall extend to any subsequent or other default or event of default or impair any right consequent thereto.

The holders of a majority in aggregate principal amount of a series of senior debt securities may direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to such senior debt securities. However, the trustee may refuse to follow any direction that conflicts with law or the senior indenture, that may involve the trustee in personal liability or that the trustee determines in good faith may be unduly prejudicial to the rights of holders of such series of senior debt securities not joining in the giving of such direction and may take any other action it deems proper that is not inconsistent with any such direction received from holders of such series of senior debt securities. A holder may not pursue any remedy with respect to the senior indenture or any series of senior debt securities unless:

the holder gives the trustee written notice of a continuing event of default;

the holders of at least 25% in aggregate principal amount of such series of senior debt securities make a written request to the trustee to pursue the remedy in respect of such event of default;

the requesting holder or holders offer the trustee indemnity satisfactory to the trustee against any costs, liability or expense;

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the trustee does not comply with the request within 60 days after receipt of the request and the offer of indemnity; and

during such 60-day period, the holders of a majority in aggregate principal amount of such series of senior debt securities do not give the trustee a direction that is inconsistent with the request.

These limitations, however, do not apply to the right of any holder of a senior debt security to receive payment of the principal of and interest on such senior debt security in accordance with the terms of such debt security, or to bring suit for the enforcement of any such payment in accordance with the terms of such debt security, on or after the due date for the senior debt securities, which right shall not be impaired or affected without the consent of the holder.

The senior indenture requires certain of our officers to certify, on or before a fixed date in each year in which any senior debt security is outstanding, as to their knowledge of our compliance with all covenants, agreements and conditions under the senior indenture.

*Satisfaction and Discharge.* We can satisfy and discharge our obligations to holders of any series of debt securities if:

we pay or cause to be paid, as and when due and payable, the principal of and any interest on all senior debt securities of such series outstanding under the senior indenture; or

all senior debt securities of such series have become due and payable or will become due and payable within one year (or are to be called for redemption within one year) and we deposit in trust a combination of cash and U.S. government or U.S. government agency obligations that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.

Under current U.S. federal income tax law, the deposit and our legal release from the debt securities would be treated as though we took back your debt securities and gave you your share of the cash and debt securities or bonds deposited in trust. In that event, you could recognize gain or loss on the debt securities you give back to us. Purchasers of the debt securities should consult their own advisers with respect to the tax consequences to them of such deposit and discharge, including the applicability and effect of tax laws other than the U.S. federal income tax law.

*Defeasance.* Unless the applicable prospectus supplement provides otherwise, the following discussion of legal defeasance and discharge and covenant defeasance will apply to any series of debt securities issued under the indentures.

*Legal Defeasance.* We can legally release ourselves from any payment or other obligations on the debt securities of any series (called legal defeasance ) if certain conditions are met, including the following:

We deposit in trust for your benefit and the benefit of all other direct holders of the debt securities of the same series a combination of cash and U.S. government or U.S. government agency obligations that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.



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There is a change in current U.S. federal income tax law or an IRS ruling that lets us make the above deposit without causing you to be taxed on the debt securities any differently than if we did not make the deposit and instead repaid the debt securities ourselves when due. Under current U.S. federal income tax law, the deposit and our legal release from the debt securities would be treated as though we took back your debt securities and gave you your share of the cash and debt securities or bonds deposited in trust. In that event, you could recognize gain or loss on the debt securities you give back to us.

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We deliver to the trustee a legal opinion of our counsel confirming the tax law change or ruling described above.

If we accomplish legal defeasance, as described above, you would have to rely solely on the trust deposit for repayment of the debt securities. You could not look to us for repayment in the event of any shortfall.

*Covenant Defeasance.* Without any change of current U.S. federal tax law, we can make the same type of deposit described above and be released from some of the covenants in the debt securities (called *covenant defeasance* ). In that event, you would lose the protection of those covenants but would gain the protection of having money and securities set aside in trust to repay the debt securities. In order to achieve covenant defeasance, we must do the following (among other things):

We must deposit in trust for your benefit and the benefit of all other direct holders of the debt securities of the same series a combination of cash and U.S. government or U.S. government agency obligations that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.

We must deliver to the trustee a legal opinion of our counsel confirming that under current U.S. federal income tax law we may make the above deposit without causing you to be taxed on the debt securities any differently than if we did not make the deposit and instead repaid the debt securities ourselves when due. If we accomplish covenant defeasance, you could still look to us for repayment of the debt securities if there were a shortfall in the trust deposit. In fact, if one of the events of default occurred (such as our bankruptcy) and the debt securities become immediately due and payable, there may be such a shortfall. Depending on the events causing the default, you may not be able to obtain payment of the shortfall.

*Modification and Waiver.* We and the trustee may amend or supplement the senior indenture or the senior debt securities without the consent of any holder:

to convey, transfer, assign, mortgage or pledge any assets as security for the senior debt securities of one or more series;

to evidence the succession of a corporation, limited liability company, partnership or trust to us, and the assumption by such successor of our covenants, agreements and obligations under the senior indenture or to otherwise comply with the covenant relating to mergers, consolidations and sales of assets;

to comply with requirements of the SEC in order to effect or maintain the qualification of the senior indenture under the Trust Indenture Act of 1939, as amended;

to add to our covenants such new covenants, restrictions, conditions or provisions for the protection of the holders, and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default;

to cure any ambiguity, defect or inconsistency in the senior indenture or in any supplemental indenture or to conform the senior indenture or the senior debt securities to the description of senior debt securities of such series set forth in this prospectus or any applicable prospectus supplement;

to provide for or add guarantors with respect to the senior debt securities of any series;

to establish the form or forms or terms of the senior debt securities as permitted by the senior indenture;

to evidence and provide for the acceptance of appointment under the senior indenture by a successor trustee, or to make such changes as shall be necessary to provide for or facilitate the administration of the trusts in the senior indenture by more than one trustee;

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to add to, delete from or revise the conditions, limitations and restrictions on the authorized amount, terms, purposes of issue, authentication and delivery of any series of senior debt securities;

to make any change to the senior debt securities of any series so long as no senior debt securities of such series are outstanding; or

to make any change that does not adversely affect the rights of any holder in any material respect.

Other amendments and modifications of the senior indenture or the senior debt securities issued may be made, and our compliance with any provision of the senior indenture with respect to any series of senior debt securities may be waived, with the consent of the holders of a majority of the aggregate principal amount of the outstanding senior debt securities of all series affected by the amendment or modification (voting together as a single class); provided, however, that each affected holder must consent to any modification, amendment or waiver that:

extends the final maturity of any senior debt securities of such series;

reduces the principal amount of any senior debt securities of such series;

reduces the rate or extends the time of payment of interest on any senior debt securities of such series;

reduces the amount payable upon the redemption of any senior debt securities of such series;

changes the currency of payment of principal of or interest on any senior debt securities of such series;

reduces the principal amount of original issue discount securities payable upon acceleration of maturity or the amount provable in bankruptcy;

waives an uncured default in the payment of principal of or interest on the senior debt securities (except in the case of a rescission of acceleration as described above);

changes the provisions relating to the waiver of past defaults or changes or impairs the right of holders to receive payment or to institute suit for the enforcement of any payment or conversion of any senior debt securities of such series on or after the due date therefor;

modifies any of the provisions of these restrictions on amendments and modifications, except to increase any required percentage or to provide that certain other provisions cannot be modified or waived without the consent of the holder of each senior debt security of such series affected by the modification; or

reduces the above-stated percentage of outstanding senior debt securities of such series whose holders must consent to a supplemental indenture or modifies or amends or waives certain provisions of or defaults under the senior indenture.

It shall not be necessary for the holders to approve the particular form of any proposed amendment, supplement or waiver, but it shall be sufficient if the holders consent approves the substance thereof. After an amendment, supplement or waiver of the senior indenture in accordance with the provisions described in this section becomes effective, the trustee must give to the holders affected thereby certain notice briefly describing the amendment, supplement or waiver. Any failure by the trustee to give such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such amendment, supplemental indenture or waiver.

*No Personal Liability of Incorporators, Stockholders, Officers, Directors.* The senior indenture provides that no recourse shall be had under any obligation, covenant or agreement of ours in the senior indenture or any supplemental indenture, or in any of the senior debt securities or because of the creation of any indebtedness represented thereby, against any of our incorporators, stockholders, officers or directors, past, present or future, or of any predecessor or successor entity thereof under any law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise. Each holder, by accepting the senior debt securities, waives and releases all such liability.

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*Concerning the Trustee.* The senior indenture provides that, except during the continuance of an event of default, the trustee will not be liable except for the performance of such duties as are specifically set forth in the senior indenture. If an event of default has occurred and is continuing, the trustee will exercise such rights and powers vested in it under the senior indenture and will use the same degree of care and skill in its exercise as a prudent person would exercise under the circumstances in the conduct of such person's own affairs.

The senior indenture and the provisions of the Trust Indenture Act of 1939 incorporated by reference therein contain limitations on the rights of the trustee thereunder, should it become a creditor of ours or any of our subsidiaries, to obtain payment of claims in certain cases or to realize on certain property received by it in respect of any such claims, as security or otherwise. The trustee is permitted to engage in other transactions, provided that if it acquires any conflicting interest (as defined in the Trust Indenture Act), it must eliminate such conflict or resign.

We may have normal banking relationships with the senior trustee in the ordinary course of business.

*Unclaimed Funds.* All funds deposited with the trustee or any paying agent for the payment of principal, premium, interest or additional amounts in respect of the senior debt securities that remain unclaimed for two years after the date upon which such principal, premium or interest became due and payable will be repaid to us. Thereafter, any right of any holder of senior debt securities to such funds shall be enforceable only against us, and the trustee and paying agents will have no liability therefor.

*Governing Law.* The senior indenture and the senior debt securities will be governed by, and construed in accordance with, the internal laws of the State of New York.

## **Certain Terms of the Subordinated Debt Securities**

Other than the terms of the subordinated indenture and subordinated debt securities relating to subordination or otherwise as described in the prospectus supplement relating to a particular series of subordinated debt securities, the terms of the subordinated indenture and subordinated debt securities are identical in all material respects to the terms of the senior indenture and senior debt securities.

Additional or different subordination terms may be specified in the prospectus supplement applicable to a particular series.

*Subordination.* The indebtedness evidenced by the subordinated debt securities is subordinate to the prior payment in full of all of our senior indebtedness, as defined in the subordinated indenture. During the continuance beyond any applicable grace period of any default in the payment of principal, premium, interest or any other payment due on any of our senior indebtedness, we may not make any payment of principal or interest on the subordinated debt securities (except for certain sinking fund payments). In addition, upon any payment or distribution of our assets upon any dissolution, winding-up, liquidation or reorganization, the payment of the principal and interest on the subordinated debt securities will be subordinated to the extent provided in the subordinated indenture in right of payment to the prior payment in full of all our senior indebtedness. Because of this subordination, if we dissolve or otherwise liquidate, holders of our subordinated debt securities may receive less, ratably, than holders of our senior indebtedness. The subordination provisions do not prevent the occurrence of an event of default under the subordinated indenture.

The term "senior indebtedness" of a person means with respect to such person the principal of, premium, if any, interest on, and any other payment due pursuant to any of the following, whether outstanding on the date of the subordinated indenture or incurred by that person in the future:

all of the indebtedness of that person for money borrowed;

all of the indebtedness of that person evidenced by notes, debentures, bonds or other securities sold by that person for money;

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all of the lease obligations that are capitalized on the books of that person in accordance with generally accepted accounting principles;

all indebtedness of others of the kinds described in the first two bullet points above and all lease obligations of others of the kind described in the third bullet point above that the person, in any manner, assumes or guarantees or that the person in effect guarantees through an agreement to purchase, whether that agreement is contingent or otherwise; and

all renewals, extensions or refundings of indebtedness of the kinds described in the first, second or fourth bullet point above and all renewals or extensions of leases of the kinds described in the third or fourth bullet point above;

unless, in the case of any particular indebtedness, renewal, extension or refunding, the instrument creating or evidencing it or the assumption or guarantee relating to it expressly provides that such indebtedness, renewal, extension or refunding is not superior in right of payment to the subordinated debt securities. Our senior debt securities constitute senior indebtedness for purposes of the subordinated debt indenture.



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**DESCRIPTION OF CAPITAL STOCK**

The following description of our capital stock is intended as a summary only and therefore is not a complete description of our capital stock. This description is based upon, and is qualified by reference to, our restated certificate of incorporation (referred to herein as our certificate of incorporation ), our amended and restated by-laws (referred to herein as our by-laws ) and applicable provisions of Delaware corporate law. You should read our certificate of incorporation and by-laws, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you.

Our authorized capital stock consists of 150,000,000 shares of common stock, par value \$0.001 per share, and 5,000,000 shares of preferred stock, par value \$0.001 per share. As of May 31, 2016 there were 27,515,007 shares of common stock outstanding and no shares of preferred stock outstanding.

**Common Stock**

*Annual Meeting.* Annual meetings of our stockholders are held on the date designated in accordance with our by-laws. Written notice must be mailed to each stockholder entitled to vote not less than ten nor more than 60 days before the date of the meeting. The presence in person or by proxy of the holders of record of a majority of our issued and outstanding shares entitled to vote at such meeting constitutes a quorum for the transaction of business at meetings of the stockholders. Special meetings of the stockholders may be called for any purpose by the board of directors, the chairman of the board or the chief executive officer. Except as may be otherwise provided by applicable law, our certificate of incorporation or our by-laws, all elections shall be decided by a plurality, and all other questions shall be decided by a majority, of the votes cast by stockholders entitled to vote thereon at a duly held meeting of stockholders at which a quorum is present.

*Voting Rights.* Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights.

*Dividends.* Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of any series of preferred stock that we may designate and issue in the future.

*Liquidation and Dissolution.* In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately our net assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock.

*Other Rights.* Holders of common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

*Transfer Agent and Registrar.* American Stock Transfer & Trust Company, LLC is transfer agent and registrar for the common stock.

**Preferred Stock**

We are authorized to issue blank check preferred stock, which may be issued in one or more series upon authorization of our board of directors. Our board of directors is authorized to fix the designation of the series, the number of authorized shares of the series, dividend rights and terms, conversion rights, voting rights, redemption rights and

terms, liquidation preferences and any other rights, powers, preferences and limitations applicable to each series of preferred stock. The authorized shares of our preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange on which our securities may be listed. If the approval of our stockholders is not required

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for the issuance of shares of our preferred stock, our board may determine not to seek stockholder approval. The specific terms of any series of preferred stock offered pursuant to this prospectus will be described in the prospectus supplement relating to that series of preferred stock.

A series of our preferred stock could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt. Our board of directors will make any determination to issue preferred shares based upon its judgment as to the best interests of our stockholders. Our directors, in so acting, could issue preferred stock having terms that could discourage an acquisition attempt through which an acquirer may be able to change the composition of our board of directors, including a tender offer or other transaction that some, or a majority, of our stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then-current market price of the stock.

The preferred stock has the terms described below unless otherwise provided in the prospectus supplement relating to a particular series of preferred stock. You should read the prospectus supplement relating to the particular series of preferred stock being offered for specific terms, including:

the designation and stated value per share of the preferred stock and the number of shares offered;

the amount of liquidation preference per share;

the price at which the preferred stock will be issued;

the dividend rate, or method of calculation of dividends, the dates on which dividends will be payable, whether dividends will be cumulative or noncumulative and, if cumulative, the dates from which dividends will commence to accumulate;

any redemption or sinking fund provisions;

if other than the currency of the United States, the currency or currencies including composite currencies in which the preferred stock is denominated and/or in which payments will or may be payable;

any conversion provisions;

whether we have elected to offer depositary shares as described under [Description of Depositary Shares](#) ; and

any other rights, preferences, privileges, limitations and restrictions on the preferred stock.

The preferred stock will, when issued, be fully paid and non-assessable. Unless otherwise specified in the prospectus supplement, each series of preferred stock will rank equally as to dividends and liquidation rights in all respects with

each other series of preferred stock. The rights of holders of shares of each series of preferred stock will be subordinate to those of our general creditors.

As described under Description of Depositary Shares, we may, at our option, with respect to any series of preferred stock, elect to offer fractional interests in shares of preferred stock, and provide for the issuance of depositary receipts representing depositary shares, each of which will represent a fractional interest in a share of the series of preferred stock. The fractional interest will be specified in the prospectus supplement relating to a particular series of preferred stock.

*Rank.* Unless otherwise specified in the prospectus supplement, the preferred stock will, with respect to dividend rights and rights upon our liquidation, dissolution or winding up of our affairs, rank:

senior to our common stock and to all equity securities ranking junior to such preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs;

on a parity with all equity securities issued by us, the terms of which specifically provide that such equity securities rank on a parity with the preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs; and

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junior to all equity securities issued by us, the terms of which specifically provide that such equity securities rank senior to the preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs.

The term "equity securities" does not include convertible debt securities.

*Dividends.* Holders of the preferred stock of each series will be entitled to receive, when, as and if declared by our board of directors, cash dividends at such rates and on such dates described in the prospectus supplement. Different series of preferred stock may be entitled to dividends at different rates or based on different methods of calculation. The dividend rate may be fixed or variable or both. Dividends will be payable to the holders of record as they appear on our stock books on record dates fixed by our board of directors, as specified in the applicable prospectus supplement.

Dividends on any series of preferred stock may be cumulative or noncumulative, as described in the applicable prospectus supplement. If our board of directors does not declare a dividend payable on a dividend payment date on any series of noncumulative preferred stock, then the holders of that noncumulative preferred stock will have no right to receive a dividend for that dividend payment date, and we will have no obligation to pay the dividend accrued for that period, whether or not dividends on that series are declared payable on any future dividend payment dates. Dividends on any series of cumulative preferred stock will accrue from the date we initially issue shares of such series or such other date specified in the applicable prospectus supplement.

No dividends may be declared or paid or funds set apart for the payment of any dividends on any parity securities unless full dividends have been paid or set apart for payment on the preferred stock. If full dividends are not paid, the preferred stock will share dividends pro rata with the parity securities.

No dividends may be declared or paid or funds set apart for the payment of dividends on any junior securities unless full dividends for all dividend periods terminating on or prior to the date of the declaration or payment will have been paid or declared and a sum sufficient for the payment set apart for payment on the preferred stock.

*Liquidation Preference.* Upon any voluntary or involuntary liquidation, dissolution or winding up of our affairs, then, before we make any distribution or payment to the holders of any common stock or any other class or series of our capital stock ranking junior to the preferred stock in the distribution of assets upon any liquidation, dissolution or winding up of our affairs, the holders of each series of preferred stock shall be entitled to receive out of assets legally available for distribution to stockholders, liquidating distributions in the amount of the liquidation preference per share set forth in the prospectus supplement, plus any accrued and unpaid dividends thereon. Such dividends will not include any accumulation in respect of unpaid noncumulative dividends for prior dividend periods. Unless otherwise specified in the prospectus supplement, after payment of the full amount of their liquidating distributions, the holders of preferred stock will have no right or claim to any of our remaining assets. Upon any such voluntary or involuntary liquidation, dissolution or winding up, if our available assets are insufficient to pay the amount of the liquidating distributions on all outstanding preferred stock and the corresponding amounts payable on all other classes or series of our capital stock ranking on parity with the preferred stock and all other such classes or series of shares of capital stock ranking on parity with the preferred stock in the distribution of assets, then the holders of the preferred stock and all other such classes or series of capital stock will share ratably in any such distribution of assets in proportion to the full liquidating distributions to which they would otherwise be entitled.

Upon any such liquidation, dissolution or winding up and if we have made liquidating distributions in full to all holders of preferred stock, we will distribute our remaining assets among the holders of any other classes or series of capital stock ranking junior to the preferred stock according to their respective rights and preferences and, in each case, according to their respective number of shares. For such purposes, our consolidation or merger with or into any

other corporation, trust or entity, or the sale, lease or conveyance of all or substantially all of our property or assets will not be deemed to constitute a liquidation, dissolution or winding up of our affairs.

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*Redemption.* If so provided in the applicable prospectus supplement, the preferred stock will be subject to mandatory redemption or redemption at our option, as a whole or in part, in each case upon the terms, at the times and at the redemption prices set forth in such prospectus supplement.

The prospectus supplement relating to a series of preferred stock that is subject to mandatory redemption will specify the number of shares of preferred stock that shall be redeemed by us in each year commencing after a date to be specified, at a redemption price per share to be specified, together with an amount equal to all accrued and unpaid dividends thereon to the date of redemption. Unless the shares have a cumulative dividend, such accrued dividends will not include any accumulation in respect of unpaid dividends for prior dividend periods. We may pay the redemption price in cash or other property, as specified in the applicable prospectus supplement. If the redemption price for preferred stock of any series is payable only from the net proceeds of the issuance of shares of our capital stock, the terms of such preferred stock may provide that, if no such shares of our capital stock shall have been issued or to the extent the net proceeds from any issuance are insufficient to pay in full the aggregate redemption price then due, such preferred stock shall automatically and mandatorily be converted into the applicable shares of our capital stock pursuant to conversion provisions specified in the applicable prospectus supplement. Notwithstanding the foregoing, we will not redeem any preferred stock of a series unless:

if that series of preferred stock has a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full cumulative dividends on the preferred stock for all past dividend periods and the then current dividend period; or

if such series of preferred stock does not have a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full dividends for the then current dividend period.

In addition, we will not acquire any preferred stock of a series unless:

if that series of preferred stock has a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full cumulative dividends on all outstanding shares of such series of preferred stock for all past dividend periods and the then current dividend period; or

if that series of preferred stock does not have a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full dividends on the preferred stock of such series for the then current dividend period.

However, at any time we may purchase or acquire preferred stock of that series (1) pursuant to a purchase or exchange offer made on the same terms to holders of all outstanding preferred stock of such series or (2) by conversion into or exchange for shares of our capital stock ranking junior to the preferred stock of such series as to dividends and upon liquidation.

If fewer than all of the outstanding shares of preferred stock of any series are to be redeemed, we will determine the number of shares that may be redeemed pro rata from the holders of record of such shares in proportion to the number of such shares held or for which redemption is requested by such holder or by any other equitable manner that we determine. Such determination will reflect adjustments to avoid redemption of fractional shares.

Unless otherwise specified in the prospectus supplement, we will mail notice of redemption at least 30 days but not more than 60 days before the redemption date to each holder of record of preferred stock to be redeemed at the address shown on our stock transfer books. Each notice shall state:

the redemption date;

the number of shares and series of preferred stock to be redeemed;

the redemption price;



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the place or places where certificates for such preferred stock are to be surrendered for payment of the redemption price;

that dividends on the shares to be redeemed will cease to accrue on such redemption date;

the date on which the holder's conversion rights, if any, as to such shares shall terminate; and

the specific number of shares to be redeemed from each such holder if fewer than all the shares of any series are to be redeemed.

If notice of redemption has been given and we have set aside the funds necessary for such redemption in trust for the benefit of the holders of any shares called for redemption, then from and after the redemption date, dividends will cease to accrue on such shares, and all rights of the holders of such shares will terminate, except the right to receive the redemption price.

*Voting Rights.* Holders of preferred stock will not have any voting rights, except as required by law or as indicated in the applicable prospectus supplement.

Unless otherwise provided for under the terms of any series of preferred stock, no consent or vote of the holders of shares of preferred stock or any series thereof shall be required for any amendment to our certificate of incorporation that would increase the number of authorized shares of preferred stock or the number of authorized shares of any series thereof or decrease the number of authorized shares of preferred stock or the number of authorized shares of any series thereof (but not below the number of authorized shares of preferred stock or such series, as the case may be, then outstanding).

*Conversion Rights.* The terms and conditions, if any, upon which any series of preferred stock is convertible into our common stock will be set forth in the applicable prospectus supplement relating thereto. Such terms will include the number of shares of common stock into which the shares of preferred stock are convertible, the conversion price, rate or manner of calculation thereof, the conversion period, provisions as to whether conversion will be at our option or at the option of the holders of the preferred stock, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of the redemption.

*Transfer Agent and Registrar.* The transfer agent and registrar for the preferred stock will be set forth in the applicable prospectus supplement.

## **Provisions of Our Certificate of Incorporation and By-laws and Delaware Law That May Have Anti-Takeover Effects**

### ***DGCL***

We are subject to Section 203 of the DGCL. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a business combination with any interested stockholder for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A business combination includes, among other things, a merger or consolidation involving us and the interested stockholder and the sale of more than 10% of our assets. In general, an interested stockholder is any entity

or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

***Staggered board; removal of directors***

Our restated certificate of incorporation and our amended and restated bylaws divide our board of directors into three classes with staggered three-year terms. In addition, a director may be removed only for cause and only by the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in an annual election of directors. Any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

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The classification of our board of directors and the limitations on the removal of directors and filling of vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

***Super-majority voting***

The DGCL provides, generally, that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our by-laws may be amended or repealed by a majority vote of our board of directors or the affirmative vote of the holders of at least two-thirds of the votes that all our stockholders would be entitled to cast in an annual election of directors. In addition, the affirmative vote of the holders of at least two-thirds of the votes which all our stockholders would be entitled to cast in an election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our restated certificate of incorporation described in the prior two paragraphs.

***Stockholder action; special meeting of stockholders***

Our restated certificate of incorporation provides that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of such stockholders and may not be effected by any consent in writing by such stockholders. Our restated certificate of incorporation and our amended and restated bylaws also provide that, except as otherwise required by law, special meetings of our stockholders can only be called by our chairman of the board, our chief executive officer or our board of directors.

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**DESCRIPTION OF DEPOSITARY SHARES**

**General**

We may, at our option, elect to offer fractional shares of preferred stock, which we call depositary shares, rather than full shares of preferred stock. If we do, we will issue to the public receipts, called depositary receipts, for depositary shares, each of which will represent a fraction, to be described in the applicable prospectus supplement, of a share of a particular series of preferred stock. Unless otherwise provided in the prospectus supplement, each owner of a depositary share will be entitled, in proportion to the applicable fractional interest in a share of preferred stock represented by the depositary share, to all the rights and preferences of the preferred stock represented by the depositary share. Those rights include dividend, voting, redemption, conversion and liquidation rights.

The shares of preferred stock underlying the depositary shares will be deposited with a bank or trust company selected by us to act as depositary under a deposit agreement between us, the depositary and the holders of the depositary receipts. The depositary will be the transfer agent, registrar and dividend disbursing agent for the depositary shares.

The depositary shares will be evidenced by depositary receipts issued pursuant to the deposit agreement. Holders of depositary receipts agree to be bound by the deposit agreement, which requires holders to take certain actions such as filing proof of residence and paying certain charges.

The summary of terms of the depositary shares contained in this prospectus is not a complete description of the terms of the depositary shares. You should refer to the form of the deposit agreement, our certificate of incorporation and the certificate of designation for the applicable series of preferred stock that are, or will be, filed with the SEC.

**Dividends and Other Distributions**

The depositary will distribute all cash dividends or other cash distributions, if any, received in respect of the preferred stock underlying the depositary shares to the record holders of depositary shares in proportion to the numbers of depositary shares owned by those holders on the relevant record date. The relevant record date for depositary shares will be the same date as the record date for the underlying preferred stock.

If there is a distribution other than in cash, the depositary will distribute property (including securities) received by it to the record holders of depositary shares, unless the depositary determines that it is not feasible to make the distribution. If this occurs, the depositary may, with our approval, adopt another method for the distribution, including selling the property and distributing the net proceeds from the sale to the holders.

**Liquidation Preference**

If a series of preferred stock underlying the depositary shares has a liquidation preference, in the event of the voluntary or involuntary liquidation, dissolution or winding up of us, holders of depositary shares will be entitled to receive the fraction of the liquidation preference accorded each share of the applicable series of preferred stock, as set forth in the applicable prospectus supplement.

**Withdrawal of Stock**

Unless the related depositary shares have been previously called for redemption, upon surrender of the depositary receipts at the office of the depositary, the holder of the depositary shares will be entitled to delivery, at the office of the depositary to or upon his or her order, of the number of whole shares of the preferred stock



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and any money or other property represented by the depositary shares. If the depositary receipts delivered by the holder evidence a number of depositary shares in excess of the number of depositary shares representing the number of whole shares of preferred stock to be withdrawn, the depositary will deliver to the holder at the same time a new depositary receipt evidencing the excess number of depositary shares. In no event will the depositary deliver fractional shares of preferred stock upon surrender of depositary receipts. Holders of preferred stock thus withdrawn may not thereafter deposit those shares under the deposit agreement or receive depositary receipts evidencing depositary shares therefor.

## **Redemption of Depositary Shares**

Whenever we redeem shares of preferred stock held by the depositary, the depositary will redeem as of the same redemption date the number of depositary shares representing shares of the preferred stock so redeemed, so long as we have paid in full to the depositary the redemption price of the preferred stock to be redeemed plus an amount equal to any accumulated and unpaid dividends on the preferred stock to the date fixed for redemption. The redemption price per depositary share will be equal to the redemption price and any other amounts per share payable on the preferred stock multiplied by the fraction of a share of preferred stock represented by one depositary share. If less than all the depositary shares are to be redeemed, the depositary shares to be redeemed will be selected by lot or pro rata or by any other equitable method as may be determined by the depositary.

After the date fixed for redemption, depositary shares called for redemption will no longer be deemed to be outstanding and all rights of the holders of depositary shares will cease, except the right to receive the monies payable upon redemption and any money or other property to which the holders of the depositary shares were entitled upon redemption upon surrender to the depositary of the depositary receipts evidencing the depositary shares.

## **Voting the Preferred Stock**

Upon receipt of notice of any meeting at which the holders of the preferred stock are entitled to vote, the depositary will mail the information contained in the notice of meeting to the record holders of the depositary receipts relating to that preferred stock. The record date for the depositary receipts relating to the preferred stock will be the same date as the record date for the preferred stock. Each record holder of the depositary shares on the record date will be entitled to instruct the depositary as to the exercise of the voting rights pertaining to the number of shares of preferred stock represented by that holder's depositary shares. The depositary will endeavor, insofar as practicable, to vote the number of shares of preferred stock represented by the depositary shares in accordance with those instructions, and we will agree to take all action that may be deemed necessary by the depositary in order to enable the depositary to do so. The depositary will not vote any shares of preferred stock except to the extent it receives specific instructions from the holders of depositary shares representing that number of shares of preferred stock.

## **Charges of Depositary**

We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangements. We will pay charges of the depositary in connection with the initial deposit of the preferred stock and any redemption of the preferred stock. Holders of depositary receipts will pay transfer, income and other taxes and governmental charges and such other charges (including those in connection with the receipt and distribution of dividends, the sale or exercise of rights, the withdrawal of the preferred stock and the transferring, splitting or grouping of depositary receipts) as are expressly provided in the deposit agreement to be for their accounts. If these charges have not been paid by the holders of depositary receipts, the depositary may refuse to transfer depositary shares, withhold dividends and distributions and sell the depositary shares evidenced by the depositary receipt.



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### **Amendment and Termination of the Deposit Agreement**

The form of depositary receipt evidencing the depositary shares and any provision of the deposit agreement may be amended by agreement between us and the depositary. However, any amendment that materially and adversely alters the rights of the holders of depositary shares, other than fee changes, will not be effective unless the amendment has been approved by the holders of a majority of the outstanding depositary shares. The deposit agreement may be terminated by the depositary or us only if:

all outstanding depositary shares have been redeemed; or

there has been a final distribution of the preferred stock in connection with our dissolution and such distribution has been made to all the holders of depositary shares.

### **Resignation and Removal of Depositary**

The depositary may resign at any time by delivering to us notice of its election to do so, and we may remove the depositary at any time. Any resignation or removal of the depositary will take effect upon our appointment of a successor depositary and its acceptance of such appointment. The successor depositary must be appointed within 60 days after delivery of the notice of resignation or removal and must be a bank or trust company having its principal office in the United States and having the requisite combined capital and surplus as set forth in the applicable agreement.

### **Notices**

The depositary will forward to holders of depositary receipts all notices, reports and other communications, including proxy solicitation materials received from us, that are delivered to the depositary and that we are required to furnish to the holders of the preferred stock. In addition, the depositary will make available for inspection by holders of depositary receipts at the principal office of the depositary, and at such other places as it may from time to time deem advisable, any reports and communications we deliver to the depositary as the holder of preferred stock.

### **Limitation of Liability**

Neither we nor the depositary will be liable if either we or it is prevented or delayed by law or any circumstance beyond its control in performing its obligations. Our obligations and those of the depositary will be limited to performance in good faith of our and their duties thereunder. We and the depositary will not be obligated to prosecute or defend any legal proceeding in respect of any depositary shares or preferred stock unless satisfactory indemnity is furnished. We and the depositary may rely upon written advice of counsel or accountants, on information provided by persons presenting preferred stock for deposit, holders of depositary receipts or other persons believed to be competent to give such information and on documents believed to be genuine and to have been signed or presented by the proper party or parties.



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**DESCRIPTION OF PURCHASE CONTRACTS AND PURCHASE UNITS**

We may issue purchase contracts, including contracts obligating holders to purchase from or sell to us, and obligating us to sell to or purchase from the holders, a specified number of shares of our common stock, preferred stock or depositary shares at a future date or dates, which we refer to in this prospectus as purchase contracts. The price per share of common stock, preferred stock or depositary shares and the number of shares of each may be fixed at the time the purchase contracts are issued or may be determined by reference to a specific formula set forth in the purchase contracts. The purchase contracts may be issued separately or as part of units, often known as purchase units, consisting of one or more purchase contracts and beneficial interests in debt securities or any other securities described in the applicable prospectus supplement or any combination of the foregoing, securing the holders obligations to purchase the common stock, preferred stock or depositary shares under the purchase contracts.

The purchase contracts may require us to make periodic payments to the holders of the purchase units or vice versa, and these payments may be unsecured or prefunded on some basis. The purchase contracts may require holders to secure their obligations under those contracts in a specified manner, including pledging their interest in another purchase contract.

The applicable prospectus supplement will describe the terms of the purchase contracts and purchase units, including, if applicable, collateral or depositary arrangements.

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**DESCRIPTION OF WARRANTS**

We may issue warrants to purchase common stock, preferred stock, depositary shares or debt securities. We may offer warrants separately or together with one or more additional warrants, common stock, preferred stock, depositary shares or debt securities, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. If we issue warrants as part of a unit, the accompanying prospectus supplement will specify whether those warrants may be separated from the other securities in the unit prior to the expiration date of the warrants. The applicable prospectus supplement will also describe the following terms of any warrants:

the specific designation and aggregate number of, and the offering price at which we will issue, the warrants;

the currency or currency units in which the offering price, if any, and the exercise price are payable;

the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;

whether the warrants are to be sold separately or with other securities as parts of units;

whether the warrants will be issued in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;

any applicable material U.S. federal income tax consequences;

the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;

the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;

the designation and terms of any equity securities purchasable upon exercise of the warrants;

the designation, aggregate principal amount, currency and terms of any debt securities that may be purchased upon exercise of the warrants;

if applicable, the designation and terms of the preferred stock or depositary shares with which the warrants are issued and the number of warrants issued with each security;

if applicable, the date from and after which any warrants issued as part of a unit and the related debt securities, preferred stock, depositary shares or common stock will be separately transferable;

the number of shares of common stock, preferred stock or depositary shares purchasable upon exercise of a warrant and the price at which those shares may be purchased;

if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

information with respect to book-entry procedures, if any;

the anti-dilution provisions of, and other provisions for changes to or adjustment in the exercise price of, the warrants, if any;

any redemption or call provisions; and

any additional terms of the warrants, including terms, procedures and limitations relating to the exchange or exercise of the warrants.

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**FORMS OF SECURITIES**

Each debt security, depositary share, purchase contract, purchase unit and warrant will be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Unless the applicable prospectus supplement provides otherwise, certificated securities in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depositary or its nominee as the owner of the debt securities, depositary shares, purchase contracts, purchase units or warrants represented by these global securities. The depositary maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

**Global Securities**

We may issue the debt securities, depositary shares, purchase contracts, purchase units and warrants in the form of one or more fully registered global securities that will be deposited with a depositary or its nominee identified in the applicable prospectus supplement and registered in the name of that depositary or nominee. In those cases, one or more global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a global security may not be transferred except as a whole by and among the depositary for the global security, the nominees of the depositary or any successors of the depositary or those nominees.

If not described below, any specific terms of the depositary arrangement with respect to any securities to be represented by a global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depositary arrangements.

Ownership of beneficial interests in a global security will be limited to persons, called participants, that have accounts with the depositary or persons that may hold interests through participants. Upon the issuance of a global security, the depositary will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depositary, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in global securities.

So long as the depositary, or its nominee, is the registered owner of a global security, that depositary or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the global security for all purposes under the applicable indenture, deposit agreement, purchase contract, warrant agreement or purchase unit agreement. Except as described below, owners of beneficial interests in a global security will not be entitled to have the securities represented by the global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the applicable indenture, deposit agreement, purchase contract, purchase unit agreement or warrant agreement. Accordingly, each person owning a beneficial interest in a global security must rely on the procedures of the

depository for that global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture, deposit agreement, purchase contract, purchase unit agreement or

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warrant agreement. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a global security desires to give or take any action that a holder is entitled to give or take under the applicable indenture, deposit agreement, purchase contract, purchase unit agreement or warrant agreement, the depository for the global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Principal, premium, if any, and interest payments on debt securities, and any payments to holders with respect to depository shares, warrants, purchase agreements or purchase units, represented by a global security registered in the name of a depository or its nominee will be made to the depository or its nominee, as the case may be, as the registered owner of the global security. None of us, or any trustee, warrant agent, unit agent or other agent of ours, or any agent of any trustee, warrant agent or unit agent will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depository for any of the securities represented by a global security, upon receipt of any payment to holders of principal, premium, interest or other distribution of underlying securities or other property on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that global security as shown on the records of the depository. We also expect that payments by participants to owners of beneficial interests in a global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers or registered in street name, and will be the responsibility of those participants.

If the depository for any of the securities represented by a global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Exchange Act, and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the global security that had been held by the depository. Any securities issued in definitive form in exchange for a global security will be registered in the name or names that the depository gives to the relevant trustee, warrant agent, unit agent or other relevant agent of ours or theirs. It is expected that the depository's instructions will be based upon directions received by the depository from participants with respect to ownership of beneficial interests in the global security that had been held by the depository.

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**PLAN OF DISTRIBUTION**

We or a selling stockholder may sell securities:

through underwriters;

through dealers;

through agents;

directly to purchasers; or

through a combination of any of these methods of sale.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

We or any selling stockholder may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act, and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis.

The distribution of the securities may be effected from time to time in one or more transactions:

at a fixed price, or prices, which may be changed from time to time;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

the name of the agent or any underwriters;

the public offering or purchase price and the proceeds we will receive from the sale of the securities;

any discounts and commissions to be allowed or re-allowed or paid to the agent or underwriters;

all other items constituting underwriting compensation;

any discounts and commissions to be allowed or re-allowed or paid to dealers; and

any exchanges on which the securities will be listed.

If any underwriters or agents are utilized in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we or any selling stockholder will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.



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If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

In addition, the manner in which any selling stockholder may sell some or all of the common stock covered by this prospectus includes any method permitted by law, including, without limitation, through:

a block trade in which a broker-dealer will attempt to sell as agent, but may position or resell a portion of the block, as principal, in order to facilitate the transaction;

purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account;

ordinary brokerage transactions and transactions in which a broker solicits purchasers; or

privately negotiated transactions.

Any selling stockholder may also enter into hedging transactions. For example, any selling stockholder may:

enter into transactions with a broker-dealer or affiliate thereof in connection with which such broker-dealer or affiliate will engage in short sales of the common stock pursuant to this prospectus, in which case such broker-dealer or affiliate may use common stock received from the selling stockholder to close out its short positions;

sell common stock short and redeliver such shares to close out the short positions;

enter into option or other types of transactions that require the selling stockholder to deliver common stock to a broker-dealer or an affiliate thereof, who will then resell or transfer the common stock under this prospectus; or

loan or pledge the common stock to a broker-dealer or an affiliate thereof, who may sell the loaned shares or, in an event of default in the case of a pledge, sell the pledged shares pursuant to this prospectus.

The common stock covered by this prospectus may be sold:

on a national securities exchange;

in the over-the-counter market; or

in transactions otherwise than on an exchange or in the over-the-counter market, or in any combination of these distribution channels.

In addition, any selling stockholder may enter into derivative or hedging transactions with third parties, or sell common stock not covered by this prospectus to third parties in privately negotiated transactions. In connection with such a transaction, the third parties may sell common stock covered by and pursuant to this prospectus and an applicable prospectus supplement or pricing supplement, as the case may be. If so, the third party may use common stock borrowed from the selling stockholder or others to settle such sales and may use common stock received from the selling stockholder to close out any related short positions. Any selling stockholder may also loan or pledge common stock covered by this prospectus and an applicable prospectus supplement to third parties, who may sell the loaned common stock or, in an event of default in the case of a pledge, sell the pledged common stock pursuant to this prospectus and the applicable prospectus supplement or pricing supplement, as the case may be.

Remarketing firms, agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

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We may pay expenses incurred with respect to the registration of the shares of common stock owned by any selling stockholders.

If so indicated in the applicable prospectus supplement, we or any selling stockholder will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and

if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Certain agents, underwriters and dealers, and their associates and affiliates may be customers of, have borrowing relationships with, engage in other transactions with, and/or perform services, including investment banking services, for us or one or more of our respective affiliates or any selling stockholder in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallocate in connection with the offering, creating a short position for their own accounts. In addition, to cover overallocations or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in three business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than three scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the third business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle more than three scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of

trading markets for any of the securities.

In compliance with the guidelines of the Financial Industry Regulatory Authority, or FINRA, the aggregate maximum discount, commission or agency fees or other items constituting underwriting compensation to be received by any FINRA member or independent broker-dealer will not exceed 8% of the proceeds from any offering pursuant to this prospectus and any applicable prospectus supplement.

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In addition to selling its common stock under this prospectus, any selling stockholder may:

transfer its common stock in other ways not involving a market maker or established trading markets, including directly by gift, distribution, or other transfer;

sell its common stock under Rule 144 or Rule 145 of the Securities Act rather than under this prospectus, if the transaction meets the requirements of Rule 144 or Rule 145; or

sell its common stock by any other legally available means.

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**LEGAL MATTERS**

Unless the applicable prospectus supplement indicates otherwise, the validity of the securities in respect of which this prospectus is being delivered will be passed upon by Wilmer Cutler Pickering Hale and Dorr LLP.

**EXPERTS**

The financial statements of Spark Therapeutics, Inc. (formerly Spark Therapeutics, LLC) as of December 31, 2014 and 2015, and for the period from March 13, 2013 (inception) through December 31, 2013 and the years ended December 31, 2014 and 2015, have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

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