PROSPECTUS

Xencor, Inc. \$40,000,000 Common Stock



We have entered into an Equity Distribution Agreement, or the Sales Agreement, with Piper Jaffray & Co., or Piper Jaffray, relating to shares of our common stock offered by this prospectus. In accordance with the terms of the Sales Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$40.0 million from time to time through Piper Jaffray as our sales agent.

Our common stock is traded on the Nasdaq Global Market under the symbol "XNCR." On October 4, 2016, the last reported sales price of our common stock was \$24.72 per share.

Sales of our common stock, if any, under this prospectus may be made in sales deemed to be "at the market offerings" as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, or the Securities Act, including sales made directly on or through The NASDAQ Global Market, the existing trading market for our common stock, sales made to or through a market maker other than on an exchange or otherwise, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or any other method permitted by law. Piper Jaffray will act as sales agent using commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us, consistent with its normal trading and sales practices, on mutually agreed terms between Piper Jaffray and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

Piper Jaffray will be entitled to compensation at a fixed commission rate of 3.0% of the gross sales price per share sold through it as agent under the Sales Agreement. In connection with the sale of the common stock on our behalf, Piper Jaffray will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Piper Jaffray will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Piper Jaffray with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act.

We are an "emerging growth company" under applicable Securities and Exchange Commission rules and are subject to reduced public company reporting requirements.

Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading "Risk Factors" on page 3 of this prospectus, and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved these securities or determined if this prospectus is accurate or complete. Any representation to the contrary is a criminal offense.

Piper Jaffray

The date of this prospectus is October 5, 2016

Table of Contents

TABLE OF CONTENTS

ABOUT THIS PROSPECTUS	
PROSPECTUS SUMMARY	1
RISK FACTORS	3
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS	4
<u>USE OF PROCEEDS</u>	5
PRICE RANGE OF OUR COMMON STOCK	(
DIVIDEND POLICY	7
<u>DILUTION</u>	}
<u>PLAN OF DISTRIBUTION</u>	10
<u>LEGAL MATTERS</u>	11
<u>EXPERTS</u>	11
WHERE YOU CAN FIND MORE INFORMATION	11
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE	11

ABOUT THIS PROSPECTUS

This prospectus relates to the offering of our common stock. Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus, together with the information incorporated by reference as described under the heading "Incorporation of Certain Information by Reference" in this prospectus. These documents contain important information that you should consider when making your investment decision.

This prospectus describes the specific terms of the common stock we are offering and also adds to, and updates information contained in the documents incorporated by reference into this prospectus. To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference into this prospectus that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. 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 into this prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in, or incorporated by reference into, this prospectus and in any free writing prospectus that we may authorize for use in connection with this offering. We have not, and Piper Jaffray has not, authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and Piper Jaffray is not, making an offer to sell or soliciting an offer to buy our common stock in any jurisdiction in which an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should assume that the information appearing in this prospectus, the documents incorporated by reference into this prospectus, and in any free writing prospectus that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus, the documents incorporated by reference into this prospectus, and any free writing prospectus that we may authorize for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus entitled "Where You Can Find More Information" and "Incorporation of Certain Information by Reference."

i

Table of Contents

PROSPECTUS SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information incorporated by reference into this prospectus, and the information included in any free writing prospectus that we may authorize for use in connection with this offering, including the information referred to under the heading "Risk Factors" in this prospectus on page 3 and in the documents incorporated by reference into this prospectus.

Unless the context requires otherwise, references in this prospectus to "Xencor," "we," "us" and "our" refer to Xencor, Inc.

Company Overview

We are a clinical-stage biopharmaceutical company focused on discovering and developing engineered monoclonal antibodies to treat severe and lifethreatening diseases with unmet medical needs. We use our proprietary XmAb technology platform to create next-generation antibody product candidates designed to treat autoimmune and allergic diseases, cancer and other conditions. In contrast to conventional approaches to antibody design, which focus on the portion of antibodies that interact with target antigens, we focus on the portion of the antibody that interacts with multiple segments of the immune system. This portion, referred to as the Fc domain, is constant and interchangeable among antibodies. Our engineered Fc domains, the XmAb technology, can be readily substituted for natural Fc domains.

Our business strategy is based on the plug-and-play nature of the XmAb technology, allowing us to create new antibody drug candidates for our internal development or licensing, or to selectively license access to one or more of our XmAb technologies or product candidates to pharmaceutical or biotechnology companies to use in developing their own proprietary antibodies and drug candidates with improved properties. These licensing transactions provide us with multiple revenue streams that help fund development of our wholly owned product candidates and usually require limited resources or efforts from us. There are currently 10 antibody product candidates in clinical trials that have been engineered with XmAb technology, including seven candidates being advanced by licensees and development partners.

Corporate Information

We were incorporated in California in August 1997 under the name Xencor, Inc. In September 2004, we reincorporated in the state of Delaware under the name Xencor, Inc. Our principal executive offices are located at 111 West Lemon Avenue, Monrovia, California, 91016, and our telephone number is (626) 305-5900. Our corporate website address is www.xencor.com. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

This prospectus contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

1

Table of Contents

The Offering

Common stock offered by us pursuant to this prospectus

Shares of common stock having an aggregate offering price of up to \$40,000,000.

"At-the-market" offering that may be made from time to time through our agent, Piper Jaffray. See "Plan of Distribution" on page 10 of this prospectus.

Use of proceeds

NASDAQ Global Market listing

We intend to use the net proceeds from this offering, if any, for working capital and general corporate purposes, including research and development expenses, general and administrative expenses and manufacturing expenses. See "Use of Proceeds" on page 5 of this prospectus.

XNCR

Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading "Risk Factors" on page 3 of this prospectus and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus, together with the other information included in or incorporated by reference into this prospectus, before deciding whether to invest in our common stock.

2

Table of Contents

Risk factors

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should carefully review the risks and uncertainties described below and under the heading "Risk Factors" contained any free writing prospectus that we may authorize for use in connection with this offering, and under similar headings in our Annual Report on Form 10-K for the year ended December 31, 2015, as updated by our subsequent annual, quarterly and other reports and documents that are incorporated by reference into this prospectus. These risks could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock, and the occurrence of any of these risks might cause you to lose all or part of your investment. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations.

Risks Related to This Offering

Management will have broad discretion as to the use of the proceeds from this offering, and may not use the proceeds effectively.

Because we have not designated the amount of net proceeds from this offering to be used for any particular purpose, our management will have broad discretion as to the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of the offering. Our management may use the net proceeds for corporate purposes that may not improve our financial condition or market value.

You may experience immediate and substantial dilution.

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 1,627,339 shares of our common stock are sold at a price of \$24.58 per share pursuant to this prospectus, which was the last reported sale price of our common stock on The NASDAQ Global Market on October 3, 2016, for aggregate gross proceeds of \$40.0 million, after deducting commissions and estimated aggregate offering expenses payable by us, you would experience immediate dilution of \$19.01 per share, representing the difference between our as adjusted net tangible book value per share as of June 30, 2016, after giving effect to this offering and the assumed offering price. The exercise of outstanding stock options and warrants may result in further dilution of your investment. See the section entitled "Dilution" below for a more detailed illustration of the dilution you would incur if you participate in this offering.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

We do not intend to pay dividends in the foreseeable future.

We have never paid cash dividends on our common stock and currently do not plan to pay any cash dividends in the foreseeable future.

,

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act of 1934, as amended, or the Exchange Act, that involve a number of risks and uncertainties. Although our forward-looking statements reflect the good faith judgment of our management, these statements can only be based on facts and factors currently known by us. Consequently, these forward-looking statements are inherently subject to risks and uncertainties, and actual results and outcomes may differ materially from results and outcomes discussed in the forward-looking statements.

Forward-looking statements can be identified by the use of forward-looking words such as "believes," "expects," "hopes," "may," "will," "plan," "intends," "estimates," "could," "should," "would," "seeks," "pro forma," or "anticipates," or other similar words (including their use in the

negative), or by discussions of future matters such as the development of new products, technology enhancements, possible collaborations and other statements that are not historical. These statements include but are not limited to statements under the captions "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and in other sections incorporated by reference from our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, as applicable, as well as our other filings with the SEC. You should be aware that the occurrence of any of the events discussed under the heading "Risk Factors" in any applicable prospectus supplement and any documents incorporated by reference herein or therein could substantially harm our business, operating results and financial condition and that if any of these events occurs, it could adversely affect the value of an investment in our securities.

The cautionary statements made in this prospectus are intended to be applicable to all related forward-looking statements wherever they may appear in this prospectus or in any prospectus supplement or any documents incorporated by reference herein or therein. We urge you not to place undue reliance on these forward-looking statements, which speak only as of the date they are made. Except as required by law, we assume no obligation to update our forward-looking statements, even if new information becomes available in the future.

4

Table of Contents

USE OF PROCEEDS

We may issue and sell common stock having aggregate sales proceeds of up to \$40.0 million from time to time. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. Except as described in any free writing prospectus that we have authorized for use in connection with this offering, we currently intend to use the net proceeds from this offering, if any, for working capital and general corporate purposes, including research and development expenses, general and administrative expenses and manufacturing expenses.

The amounts and timing of our use of the net proceeds from this offering will depend on a number of factors, such as the timing and progress of our clinical trials and research and development efforts, the timing and progress of any partnering efforts, any strategic transactions in which we may engage, and the competitive environment for our product candidates. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short-term, interest-bearing instruments.

5

Table of Contents

PRICE RANGE OF OUR COMMON STOCK

Our common stock has been listed on The NASDAQ Global Market since December 3, 2013 under the symbol "XNCR". Prior to that date, there was no public market for our common stock.

On October 4, 2016, the closing price for our common stock as reported on The NASDAQ Global Market was \$24.72 per share. The following table sets forth the ranges of high and low sales prices per share of our common stock as reported on The NASDAQ Global Market for the periods indicated. Such quotations represent inter-dealer prices without retail markup, markdown or commission and may not necessarily represent actual transactions.

	 Price Range		
	High	Low	
Year Ended December 31, 2016			
Fourth Quarter (through October 4, 2016)	\$ 25.31	23.28	
Third Quarter	\$ 26.50	17.65	
Second Quarter	\$ 19.76	10.95	
First Quarter	\$ 14.51	9.89	
Year Ended December 31, 2015			
Fourth Quarter	\$ 17.28	10.68	
Third Quarter	\$ 24.82	11.81	
Second Quarter	\$ 22.23	13.00	
First Quarter	\$ 19.50	13.67	
Year Ended December 31, 2014			
Fourth Quarter	\$ 17.65	9.00	
Third Quarter	\$ 11.92	9.06	
Second Quarter	\$ 12.01	7.82	
First Quarter	\$ 14.41	7.70	

As of June 30, 2016, there were 237 stockholders of record of our common stock, which excludes stockholders whose shares were held in nominee or street name by brokers. The actual number of common stockholders is greater than the number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

6

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant.

7

Table of Contents

DILUTION

If you invest in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share and the as adjusted net tangible book value per share after giving effect to this offering. We calculate net tangible book value per share by dividing our net tangible book value, which is tangible assets less total liabilities, by the number of outstanding shares of our common stock. Dilution represents the difference between the portion of the amount per share paid by purchasers of shares in this offering and the as adjusted net tangible book value per share of our common stock immediately after giving effect to this offering. Our net tangible book value as of June 30, 2016, was approximately \$198.2 million, or \$4.84 per share.

After giving effect to the sale of our common stock pursuant to this prospectus in the aggregate amount of \$40.0 million at an assumed offering price of \$24.58 per share, the last reported sale price of our common stock on The NASDAQ Global Market on October 3, 2016, and after deducting commissions and estimated aggregate offering expenses payable by us, our net tangible book value as of June 30, 2016 would have been \$237.0 million, or \$5.57 per share of common stock. This represents an immediate increase in the net tangible book value of \$0.73 per share to our existing stockholders and an immediate dilution in net tangible book value of \$19.01 per share to new investors. The following table illustrates this per share dilution:

Assumed offering price per share		\$ 24.58
Net tangible book value per share as of June 30, 2016	\$ 4.84	
Increase per share attributable to new investors	0.73	
As adjusted net tangible book value per share as of June 30, 2016, after giving effect to this offering		5.57
Dilution per share to new investors purchasing shares in this offering		\$ 19.01

The table above assumes for illustrative purposes that an aggregate of 1,627,339 shares of our common stock are sold pursuant to this prospectus at a price of \$24.58 per share, the last reported sale price of our common stock on The NASDAQ Global Market on October 3, 2016, for aggregate gross proceeds of \$40.0 million. The shares are being sold from time to time at various prices pursuant to the Sales Agreement with Piper Jaffray. An increase of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$24.58 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$40.0 million is sold during the term of the Sales Agreement with Piper Jaffray at that price, would result in an adjusted net tangible book value per share after the offering of \$5.58 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$20.00 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$24.58 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$40.0 million is sold during the term of the Sales Agreement with Piper Jaffray at that price, would decrease our adjusted net tangible book value per share after the offering to \$5.56 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$18.02 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

The above discussion and table are based on 40,944,080 shares of common stock outstanding as of June 30, 2016, which does not include:

- · 4,090,109 shares of common stock issuable upon the exercise of outstanding stock options as of June 30, 2016, at a weighted-average exercise price of \$10.30 per share;
- \cdot 3,223,699 shares of common stock reserved for future issuance under the 2013 Equity Incentive Plan as of June 30, 2016; and
- · 386,156 shares of common stock reserved for future issuance under the 2013 Employee Stock Purchase Plan as of June 30, 2016.

8

Table of Contents

To the extent that outstanding exercisable options or warrants are exercised, you may experience further dilution.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital by issuing equity securities or convertible debt, your ownership will be further diluted.

To the extent that new options are issued under our share-based compensation plans or we issue additional shares of common stock under the 2013 Employee Stock Purchase Plan in the future, there will be further dilution to investors participating in this offering.

9

We have entered into an equity distribution agreement with Piper Jaffray under which we may issue and sell shares of our common stock having aggregate sales proceeds of up to \$40.0 million from time to time through Piper Jaffray acting as agent.

Each time we wish to issue and sell common stock under the equity distribution agreement, we will notify Piper Jaffray of the number of shares to be issued, the dates on which such sales are anticipated to be made and any minimum price below which sales may not be made. Once we have so instructed Piper Jaffray, unless Piper Jaffray declines to accept the terms of this notice, Piper Jaffray has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such shares up to the amount specified on such terms. Piper Jaffray may sell the common stock by any method that is deemed to be an "at the market offering" as defined in Rule 415 promulgated under the Securities Act, including sales made directly on or through The NASDAQ Global Market or any other existing trading market for the common stock in the United States or to or through a market maker. Piper Jaffray also may sell the common stock in negotiated transactions, subject to our prior approval. The obligations of Piper Jaffray under the equity distribution agreement to sell our common stock are subject to a number of conditions that we must meet.

Piper Jaffray will provide written confirmation to us following the close of trading on The NASDAQ Global Market each day in which our common stock is sold under the equity distribution agreement. Each such confirmation will include the number of common stock sold on such day, the net proceeds to us and the compensation payable by us to Piper Jaffray in connection with the sales of common stock.

Settlement for sales of common stock will occur on the third business day following the date on which any sales are made, or on some other date that is agreed upon by us and Piper Jaffray in connection with a particular transaction, in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement. We will report at least quarterly the number of common stock sold through Piper Jaffray, as sales agent, under the equity distribution agreement, the net proceeds to us and the compensation paid by us to Piper Jaffray in connection with the sales of common stock.

We will pay Piper Jaffray a commission equal to 3.0% of the gross proceeds we receive from the sales of our common stock. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We estimate that the total expenses for the offering, excluding compensation payable to Piper Jaffray under the terms of the Sales Agreement, will be approximately \$350,000. We have also agreed to reimburse Piper Jaffray for certain expenses incurred in connection with the offering of our common stock pursuant to the Sales Agreement, up to a maximum of \$60,000.

In connection with the sale of the common stock on our behalf, Piper Jaffray may, and will with respect to sales effected in an "at the market offering," be deemed to be an "underwriter" within the meaning of the Securities Act, and the compensation of Piper Jaffray may be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to Piper Jaffray against specified liabilities, including liabilities under the Securities Act, or to contribute to payments that Piper Jaffray may be required to make because of those liabilities.

Piper Jaffray and its affiliates have provided, and may in the future provide, various investment banking, commercial banking, fiduciary and advisory services for us from time to time for which they have received, and may in the future receive, customary fees and expenses. Piper Jaffray and its affiliates may, from time to time, engage in other transactions with and perform services for us in the ordinary course of their business.

The offering of shares of our common stock pursuant to the equity distribution agreement will terminate upon the earlier of (1) the sale of all common stock subject to the equity distribution agreement or (2) termination of the equity distribution agreement. The equity distribution agreement may be terminated by Piper Jaffray or us at any time on the close of business on the date of receipt of written notice, and by Piper Jaffray at any time in certain circumstances, including any suspension or limitation on the trading of our common stock on The NASDAQ Global Market, as further described in the equity distribution agreement.

10

Table of Contents

LEGAL MATTERS

Cooley LLP has passed upon the validity of the common stock offered by this prospectus. Goodwin Procter LLP, New York, New York is counsel for Piper Jaffray in connection with this offering.

EXPERTS

The financial statements of Xencor, Inc. as of December 31, 2015 and for the year then ended incorporated in this Prospectus and Registration Statement by reference from the Xencor, Inc. Annual Report on Form 10-K for the year ended December 31, 2015 have been audited by RSM US LLP, an independent registered public accounting firm, as stated in their report thereon incorporated herein by reference, and have been incorporated in this Prospectus and Registration Statement in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

The financial statements as of December 31, 2014 and for each of the two years in the period ended December 31, 2014 incorporated by reference in this prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus relates to a registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth or incorporated by reference in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference in this prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, 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. You may also read and copy any document we file at the SEC's Public Reference Room at 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. We maintain a website at www.xencor.com. Information found on, or accessible through, our website is not a part of, and is not incorporated into, this prospectus, and you should not consider it part of this prospectus or part of any prospectus supplement.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this prospectus:

- · our Annual Report on Form 10-K for the fiscal year ended December 31, 2015 and filed with the SEC on March 8, 2016;
- our Quarterly Reports on Form 10-Q filed with the SEC on May 2, 2016 and August 3, 2016;
- · our Current Reports on Form 8-K (other than information furnished rather than filed) filed with the SEC on January 11, 2016, April 27, 2016, June 28, 2016, June 28, 2016, September 19, 2016 and September 30, 2016; and

11

Table of Contents

• the description of our common stock, which is registered under Section 12 of the Exchange Act, in our registration statement on Form 8-A, filed with the SEC on November 7, 2013, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus but prior to the termination of the offering. These documents include, without limitation, Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, as well as proxy statements.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits which are specifically incorporated by reference into such documents. You should direct any requests for documents by writing us at 111 West Lemon Avenue, Monrovia, California 91016 Attn: Corporate Secretary or telephoning us at (626) 305-5900.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement.

12

Table of Contents



\$40,000,000
Common Stock

PROSPECTUS
October 5, 2016

Piper Jaffray