Use these links to rapidly review the document TABLE OF CONTENTS

Table of Contents

As filed with the Securities and Exchange Commission on May 21, 2020

Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

KINIKSA PHARMACEUTICALS, LTD.

(Exact name of registrant as specified in its charter)

Bermuda (State or other jurisdiction of incorporation or organization) **98-1327726** (I.R.S. Employer Identification Number)

Clarendon House 2 Church Street Hamilton HM11, Bermuda (808) 451-3453

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Kiniksa Pharmaceuticals Corp. 100 Hayden Avenue Lexington, MA 02421 (781) 431-9100

(Address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Johan V. Brigham Nathan Ajiashvili Latham & Watkins LLP 200 Clarendon Street, 27th Floor Boston, Massachusetts 02116 (617) 948-6000

Alan Dickson Conyers Dill & Pearman Limited Clarendon House 2 Church Street PO Box HM 666 Hamilton, HM CX, Bermuda +1 (441) 295-1422

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. o

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective on filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. o

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o

Accelerated filer 🗵

Non-accelerated filer o

Smaller reporting company \boxtimes Emerging growth company \boxtimes

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for comply with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be Registered(1)	Proposed Maximum Offering Price per Share(2)	Proposed Maximum Aggregate Offering Price(2)	Amount of registration fee(3)
Class A Common Shares, par value \$0.000273235 per				
share	1,600,000 shares	\$20.99	\$33,584,000.00	\$4,359.21

(1) This registration statement registers 1,600,000 Class A common shares, par value \$0.000273235 per share of Kiniksa Pharmaceuticals, Ltd. (the "Registrant"). This registration statement also relates to an indeterminate number of additional Class A common shares which may be issued with respect to such Class A common shares by way of stock splits, stock dividends, reclassifications or similar transactions.

(2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended, and based on the average high and low prices reported for the registrant's Class A common shares on May 20, 2020 as reported on the Nasdaq Global Select Market.

(3) The registration fee has been calculated in accordance with Rule 457(c) under the Securities Act of 1933, as amended, based on the average high and low prices reported for the registration's Class A common shares on May 20, 2020.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated May 21, 2020.

PROSPECTUS



KINIKSA PHARMACEUTICALS, LTD.

1,600,000 Class A Common Shares Offered by the Selling Shareholders

This prospectus relates to the proposed resale or other disposition by the selling shareholders identified in this prospectus of up to an aggregate of 1,600,000 of our Class A common shares, par value \$0.000273235 per share, issuable upon conversion of Class A1 common shares of the Company issued and sold to the selling shareholders in a private placement, which closed on May 18, 2020. We are not selling any Class A common shares under this prospectus and will not receive any of the proceeds from the sale or other disposition of Class A common shares by the selling shareholders.

Each time the selling shareholders offer and sell securities, we or such selling shareholders will provide a supplement to this prospectus that contains specific information about the terms of that offering and the Class A common shares being sold in that offering. The applicable prospectus supplement may also add, update or change information contained in this prospectus. If the information varies between this prospectus and the accompanying prospectus supplement. You should rely on the information in the prospectus supplement. You should carefully read this prospectus and any prospectus supplement accompanying this prospectus, together with any documents incorporated by reference herein or therein, before you invest in our Class A common shares.

The selling shareholders may sell the Class A common shares on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, in the over-the-counter market, in one or more transactions otherwise than on these exchanges or systems, such as privately negotiated transactions, or using a combination of these methods, and at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. See the disclosure under the heading "Plan of Distribution" elsewhere in this prospectus for more information about how the selling shareholders may sell or otherwise dispose of their Class A common shares hereunder.

The selling shareholders may sell any, all or none of the securities offered by this prospectus and we do not know when or in what amount the selling stockholders may sell their Class A common shares hereunder following the effective date of the registration statement of which this prospectus forms a part.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE "*RISK FACTORS*" ON PAGE 5 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our Class A common shares are listed on the Nasdaq Global Select Market under the symbol "KNSA." On May 20, 2020, the last reported sale price of our Class A common shares on the Nasdaq Global Select Market was \$21.66 per share.

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

TABLE OF CONTENTS

ABOUT THIS PROSPECTUS	<u>1</u>
<u>TRADEMARKS</u>	<u>2</u>
WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE	<u>2</u>
THE COMPANY	<u>4</u>
RISK FACTORS	<u>5</u>
USE OF PROCEEDS	<u>6</u>
SELLING SHAREHOLDERS	<u>7</u>
PLAN OF DISTRIBUTION	<u>9</u>
LEGAL MATTERS	<u>11</u>
EXPERTS	<u>11</u>

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a "shelf" registration process. By using a shelf registration statement, the selling shareholders to be named in a supplement to this prospectus may, from time to time, sell up to 1,600,000 of our Class A common shares in one or more offerings as described in this prospectus.

Each time the selling shareholders offer and sell securities, we or the selling shareholders will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement or free writing prospectus may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement or free writing prospectus, so applicable. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement (and any applicable free writing prospectuses), together with the additional information described under the heading "Where You Can Find More Information; Incorporation by Reference."

Neither we, nor the selling shareholders, have authorized anyone to provide you with any information or to make any representations other than those contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the selling shareholders take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The selling shareholders will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate only as of the date on its respective cover, that the information appearing in any applicable free writing prospectus is accurate only as of the date of that free writing prospectus, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. In addition, information that may be included or incorporated by reference in this prospectus supplement or any applicable free writing prospectus, and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors" contained in this prospectus, the applicable prospectus supplement and any applica

When we refer to "Kiniksa," "we," "our," "us" and the "Company" in this prospectus, we mean Kiniksa Pharmaceuticals, Ltd. and its consolidated subsidiaries, unless otherwise specified. When we refer to "you," we mean the potential holders of the applicable series of securities.

1

TRADEMARKS

We own or have certain rights to trademarks that we use in connection with the operation of our business, including Kiniksa® and ARCALYST®. Kiniksa® is a trademark of Kiniksa Pharmaceuticals, Ltd. and ARCALYST® is a trademark of Regeneron Pharmaceuticals, Inc. Solely for convenience, trademarks, service marks and trade names referred to in this prospectus, including Kiniksa, are listed without the ®, SM and TM symbols. We will assert, to the fullest extent under applicable law, our rights to our intellectual property. Trademarks, service marks and trade names of third parties are the intellectual property of such parties.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

We file reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is *http://www.sec.gov*.

Our website address is www.kiniksa.com. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the indenture and other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

Incorporation by Reference

The SEC's rules allow 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 information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

- Our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 5, 2020.
- The information specifically incorporated by reference into our Annual Report on Form 10-K from our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 28, 2020.

2

- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, filed with the SEC on May 4, 2020.
- Our Current Report on Form 8-K filed with the SEC on <u>February 5, 2020</u> and <u>May 18, 2020</u>.

The description of our Share Capital contained in our Registration Statement on Form 8-A, filed with the SEC on May 14, 2018 and any amendment or report filed with the SEC for the purpose of updating the description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act in this prospectus, prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus by writing or telephoning us at the following address:

Attn: Secretary c/o Kiniksa Pharmaceuticals Corp. 100 Hayden Avenue Lexington, MA 02421 (781) 431-9100

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus or any accompanying prospectus supplement.



THE COMPANY

Overview

We are a biopharmaceutical company focused on discovering, acquiring, developing and commercializing therapeutic medicines for patients with significant unmet medical need. We have a pipeline of clinical-stage product candidates that are based on strong biologic rationale or validated mechanisms, target underserved conditions and offer the potential for differentiation. These assets are designed to modulate immunological signaling pathways that are implicated across a spectrum of diseases. Our product candidates include rilonacept, mavrilimumab, vixarelimab (KPL-716) and KPL-404.

Our lead candidate is rilonacept, an interleukin 1á and interleukin 1â cytokine trap. We are developing rilonacept for the potential treatment of recurrent pericarditis, a painful inflammatory cardiovascular disease. Mavrilimumab is a monoclonal antibody that antagonizes granulocyte-macrophage colony stimulating factor. We are evaluating mavrilimumab for the potential treatment of giant cell arteritis, a chronic inflammatory disease of the medium-to-large arteries. We are also planning to evaluate the combination of Yescarta® (axicabtagene ciloleucel) and mavrilimumab in relapsed or refractory large B-Cell lymphoma pursuant to our clinical collaboration with Kite Pharma, Inc., a Gilead Company, or Kite, and are preparing for a potential registrational development program for mavrilimumab in COVID-19 pneumonia and hyperinflammation. Vixarelimab is a monoclonal antibody that simultaneously inhibits the signaling of the cytokines interleukin 31 and oncostatin M by targeting their common receptor subunit, oncostatin M receptor beta. We are evaluating vixarelimab for the potential treatment of prurigo nodularis, a chronic inflammatory skin condition, and/or other diseases characterized by chronic pruritus, and are conducting additional responder and biomarker analyses across indications to help determine next steps, including a potential dose-ranging Phase 2b trial. KPL-404 is a monoclonal antibody inhibitor of the CD40/CD40L interaction, a central control node of T-cell-dependent, B-cell-mediated humoral adaptive immunity.

Corporate Information

We are an exempted company incorporated under the laws of Bermuda. We are registered with the Registrar of Companies in Bermuda under registration number 50484. We were incorporated on July 21, 2015.

Our registered office is located in Bermuda at Clarendon House, 2 Church Street, Hamilton HM11, Bermuda. The telephone number for our registered office is 1-808-451-3453. Our website address is *www.kiniksa.com*. The information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our securities.

RISK FACTORS

Investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Quarterly Report on Form 10-Q and any subsequent Annual Report on Form 10-K, Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement and any applicable free writing prospectus before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of our Class A common shares by the selling shareholders. Any proceeds from the sale by the selling shareholders of the Class A common shares offered by this prospectus will be received by the selling shareholders.

SELLING SHAREHOLDERS

On May 13, 2020, we entered into a subscription agreement with the selling shareholders, or the Subscription Agreement, pursuant to which we sold in a private placement, an aggregate of 1,600,000 Class A1 common shares for aggregate gross proceeds of \$29.2 million. Pursuant to the amended and restated investors rights agreement by and among us and certain of our shareholders, or the investors rights agreement, under certain circumstances we are obligated to register outstanding registrable securities held by shareholders party thereto. In accordance with this obligation, this prospectus covers the resale or other dispositions from time to time by the selling shareholders in the table below of up to an aggregate of 1,600,000 Class A common shares issuable upon conversion of the Class A1 common shares issued to the selling shareholders pursuant to the Subscription Agreement.

The following table sets forth the number of Class A common shares beneficially owned by the selling shareholders, the number of Class A common shares that may be offered under this prospectus and the number of Class A common shares owned by the selling shareholders assuming all of the shares covered hereby are sold and assuming the conditions noted in the footnotes thereto. The number of shares beneficially owned by each selling shareholder is determined under rules issued by the SEC. Under these rules, beneficial ownership includes any shares over which a selling shareholder has sole or shared voting power or investment power. In computing the beneficial ownership and percentage ownership of each selling shareholder, Class A common shares issuable upon conversion of other classes of common shares and Class A common shares subject to options held by such shareholder that are currently exercisable or will become exercisable within 60 days following May 18, 2020 are considered outstanding, although these shares are not considered outstanding for purposes of computing the percentage ownership of any other selling shareholder. Percentage ownership is based on 25,097,985 Class A common shares outstanding as of May 18, 2020. The number of Class A common shares in the column "Number of common shares being offered by the selling shareholders" represents all of the Class A common shares that the selling shareholders may offer hereunder. The selling shareholders may sell some, all or none of the Class A common shares that may be offered hereunder. We do not know when the Class A common shares will be sold by the selling shareholders, and the selling shareholders may offer the Class A common shares from time to time.

The number of Class A common shares that may be acquired by a holder of our Class A1 or Class B1 common shares upon conversion of such common shares is generally limited if immediately prior to or following such conversion, the holder and its affiliates beneficially own or would beneficially own more than 4.99% of the issued and outstanding Class A common shares or any other class of equity security (other than an exempted security) that is registered pursuant to Section 12 of the Exchange Act. A holder of our Class A1 or Class B1 common shares may increase, decrease or waive this limitation on ownership by providing us with 61-days' notice. The information under the heading "13(d) beneficial ownership" in the table below presents the beneficial ownership of the selling shareholders reflecting the 4.99% limitation. Solely for purposes of the table below, the information under the headings "Total ownership before the offering" and "Total ownership after the offering" disregards the 4.99% limitation.

The information set forth below is based upon information obtained from the selling shareholders and upon information known to us.

Felix J. Baker, Ph.D., and Stephen R. Biggar, M.D., Ph.D., each a member of our board of directors, are affiliated with Baker Bros. Advisors LP (the "Adviser"), and Richard S. Levy, M.D., a

7

member of our board of directors, served as a Senior Advisor at the Adviser from December 2016 until May 2019.

		13(d) beneficial before the share ownership(1) offering(2) being		Number of shares being	Total ownership after the offering(2)(3)		
	Number of shares	%	Number of shares	%	offered by the selling shareholders	Number of shares	%
Selling Shareholders							
Baker Bros. Advisors LP(4)	2,874,617	11.5%	30,285,627	57.7%	1,600,000	28,685,627	54.6%

(1) Reflects the 4.99% limitation on beneficial ownership described above.

- (2) Solely for purposes of this table, disregards the 4.99% limitation on beneficial ownership described above and assumes the conversion of all Class A1 and Class B1 common shares held by the selling shareholders.
- (3) Assumes that all shares being registered in this prospectus are resold to third parties and that the selling shareholders sell all Class A common shares registered under this prospectus held by them or that they may acquire upon conversion of other classes of our common shares held by them.
- (4) Consists of (a) 2,700,597 Class A common shares held directly by Baker Brothers Life Sciences, L.P. ("BBLS"), (b) 98,980 Class A common shares held directly by 667, L.P. ("667" and with BBLS, the "Baker Funds") (c) 10,302,952 Class A1 common shares held directly by BBLS, (d) 1,050,440 Class A1 common shares held by 667, (e) 14,658,102 Class B1 common shares held directly by BBLS, (f) 1,399,516 Class B1 common shares held directly by 667, (g) 37,520 Class A common shares that Felix J. Baker, Ph.D. has the right to acquire within 60 days following May 18, 2020, and (h) 37,520 Class A common shares that Stephen Biggar, M.D., Ph.D. has the right to acquire within 60 days following May 18, 2020 ((g) and (h), together, the "Share Options"). The Adviser is the investment adviser to the Baker Funds. Baker Bros. Advisors (GP) LLC ("Adviser GP") is the sole general partner of the Adviser. Pursuant to management agreements, as amended, among the Adviser, the Baker Funds and their respective general partners, the Baker Funds' respective general partners relinquished to the Adviser all discretion and authority with respect to the investment and voting power of the securities held by the Baker Funds, and thus the Adviser has complete and unlimited discretion and authority with respect to the Baker Funds' investments and voting power over investments. The Adviser GP, Felix J. Baker and Julian C. Baker as managing members of the Adviser GP and the Adviser may be deemed to be beneficial owners of the securities directly held by the Baker Funds. In addition, the policy of the Baker Funds and the Adviser does not permit managing members of Adviser GP or full-time employees of the Adviser to receive compensation for serving on our Board of Directors, and the Baker Funds are instead entitled to the pecuniary interest in any compensation received for their service. Felix J. Baker and Dr. Biggar have no voting or dispositive power and no direct pecuniary interest in the Share Options. Other than through their control of the Adviser, Felix J. Baker and Julian C. Baker have neither voting nor dispositive power and have no direct pecuniary interest in the Stock Options held by Felix J. Baker and Dr. Biggar. The address for the Baker Funds is 860 Washington Street, 3rd Floor, New York, NY 10014. The foregoing information is based on a Schedule 13D/A filed on May 18, 2020 and information known to us.



PLAN OF DISTRIBUTION

The selling shareholders may, from time to time, sell, transfer or otherwise dispose of any or all of their Class A common shares on any stock exchange, market or trading facility on which our Class A common shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices. To the extent any of the selling shareholders gift, pledge, grant a security interest in, distribute or otherwise transfer their Class A common shares, such donees, pledgees, transferees or other successors-in-interest may offer and sell the shares from time to time under this prospectus, provided that this prospectus has been amended under applicable provision of the Securities Act to include the names of such donees, pledgees, transferees or other successors-in-interest as selling shareholders under this prospectus and such other information as may be necessary or required.

The selling shareholders may use any one or more of the following methods when disposing of their Class A common shares:

- ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- block trades in which a broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- "at the market" or through market makers or into an existing market for the shares;
- short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise, after the effective date of the registration statement of which this prospectus is a part;
- through the distribution of the shares by any selling shareholders to its partners, members or shareholders;
- through broker-dealers that agree with the selling shareholders to sell a specified number of such shares at a stipulated price per share;
- through one or more underwritten offerings on a firm commitment or best efforts basis;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

In connection with the sale of their Class A common shares, the selling shareholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the shares in the course of hedging the positions they assume. The selling shareholders may also sell their Class A common shares short and deliver these shares to close out their short positions, or loan or pledge their Class A common shares to broker dealers that in turn may sell these shares. The selling shareholders may also enter into options or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of their Class A common shares, which, subject to the amendment or supplement of this prospectus or the registration statement of which this

9

prospectus forms a part to reflect such transaction and any other information necessary or required, such broker-dealer or other financial institution may resell pursuant to this registration statement.

The aggregate proceeds to the selling shareholders from the sale of their Class A common shares will be the purchase price less discounts or commissions, if any. Each of the selling shareholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of its Class A common shares to be made directly or through agents. We will not receive any of the proceeds from the sale of the Class A common shares by the selling shareholders.

The selling shareholders also may resell all or a portion of their Class A common shares in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule.

The selling shareholders and any broker-dealers that act in connection with the sale of the Class A common shares may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act in connection with such sales, and any commissions received by such broker-dealers and any profit on the resale of the securities sold by them while acting as principals may be deemed to be underwriting discounts or commissions under the Securities Act. In the event that any selling shareholder is deemed to be an "underwriter" within the meaning of Section 2(11) of the Securities Act, the selling shareholder will be subject to the prospectus delivery requirements of the Securities Act. The selling shareholders may indemnify any broker-dealer that participates in transactions involving the sale of the Class A common shares against certain liabilities, including liabilities arising under the Securities Act. To the extent required, the Class A common shares to be sold, the names of the selling shareholders, the offering price, the names of any agents, dealers or underwriters, any commissions or discounts with respect to a particular offering, the method of distribution, and any other terms and conditions of the offering of such shares will be set forth in an accompanying prospectus supplement or, if appropriate, an amendment to the registration statement of which this prospectus forms a part.

To comply with the securities laws of some states, if applicable, the Class A common shares may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the Class A common shares may not be sold unless they have been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

The anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of the Class A common shares in the market and to the activities of the selling shareholders and their affiliates. These rules may limit the timing of purchases and sales of the Class A Common shares by such selling shareholders. Regulation M may also restrict the ability of any person engaged in the distribution of the Class A common shares to engage in market-making activities with respect to the shares. All of the foregoing may affect the marketability of the Class A common shares and the ability of any person or entity to engage in market-making activities with respect to the Class A common shares.

Pursuant to the investors rights agreement, we have agreed to bear all expenses in connection with the registration of the Class A common shares by the selling shareholders. The selling shareholders have agreed to bear all underwriting discounts, selling commissions, and share transfer taxes applicable to the sale of such Class A common shares, and fees and disbursements of counsel for the selling shareholders, other than the fees and disbursements of one counsel for the selling shareholders, which we have agreed to pay in an amount not to exceed \$50,000. We have also agreed to indemnify the selling shareholders against certain liabilities, including liabilities for violations of the Securities Act, Exchange Act and state securities laws and liabilities relating to this prospectus and the registration statement of which it forms a part, including amendments and supplements.

There can be no assurance that any selling shareholder will sell any or all of their Class A common shares.

LEGAL MATTERS

Convers Dill & Pearman Limited will pass upon certain legal matters relating to the issuance and sale of the Class A common shares offered by the selling shareholders.

EXPERTS

The financial statements incorporated in this prospectus by reference to the <u>Annual Report on Form 10-K for the year ended December 31, 2019</u> have been so incorporated in reliance on the report (which contains an emphasis of matter paragraph related to the Company's requirement for additional financing to fund future operations and management's plans as described in Note 1 to the consolidated financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

PART II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following is an estimate of the expenses (all of which are to be paid by the registrant) that we may incur in connection with the securities being registered hereby.

SEC registration fee	\$ 4,359
Legal fees and expenses	\$ (1)
Accounting fees and expenses	\$ (1)
Miscellaneous fees and expenses	\$ (1)
Total	\$ (1)

(1) These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers

Section 98 of the Companies Act provides generally that a Bermuda company may indemnify its directors, officers and auditors against any liability which by virtue of any rule of law would otherwise be imposed on them in respect of any negligence, default, breach of duty or breach of trust, except in cases where such liability arises from fraud or dishonesty of which such director, officer or auditor may be guilty in relation to the company. Section 98 further provides that a Bermuda company may indemnify its directors, officers and auditors against any liability incurred by them in defending any proceedings, whether civil or criminal, in which judgment is awarded in their favor or in which they are acquitted or granted relief by the Supreme Court of Bermuda pursuant to section 281 of the Companies Act.

We have adopted provisions in our amended and restated bye-laws that provide that we shall indemnify our officers and directors in respect of their actions and omissions, except in respect of their fraud or dishonesty. Our amended and restated bye-laws provide that the shareholders waive all claims or rights of action that they might have, individually or in right of our Company, against any of our directors or officers for any act or failure to act in the performance of such director's or officer's duties, except in respect of any fraud or dishonesty of such director or officer. Section 98A of the Companies Act permits companies to purchase and maintain insurance for the benefit of any officer or director in respect of any loss or liability attaching to him in respect of any negligence, default, breach of duty or breach of trust, whether or not the company may otherwise indemnify such officer or director. We maintain a directors' liability policy for such a purpose.

We have entered into indemnification agreements with each of our directors and officers. These indemnification agreements may require us, among other things, to indemnify our directors and officers for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in any action or proceeding arising out of his or her service as one of our directors or officers, or any other company or enterprise to which the person provides services at our request.

Any underwriting agreement or distribution agreement that the registrant enters into with any underwriters or agents involved in the offering or sale of any securities registered hereby may require such underwriters or dealers to indemnify the registrant, some or all of its directors and officers and its controlling persons, if any, for specified liabilities, which may include liabilities under the Securities Act of 1933, as amended.

II-1

Table of Contents

Item 16. Exhibits

			Incorporated by Reference			
Exhibit Number	Exhibit Description	<u>Form</u>	File No.	Exhibit	Filing Date	Filed/ Furnished Herewith
1.1	Form of Underwriting Agreement					**
3.1	Memorandum of Association of Kiniksa Pharmaceuticals, Ltd.	S-1	333- 224488	3.1	4/27/18	
3.2	<u>Amended and Restated Bye-Laws of Kiniksa</u> <u>Pharmaceuticals, Ltd.</u>	8- K	001- 38492	3.1	5/29/18	
4.1	<u>Specimen Share Certificate evidencing the Class A common</u> <u>shares</u>	S- 1/A	333- 224488	4.1	5/14/18	
4.2	Second Amended and Restated Investors' Rights Agreement, dated as of February 9, 2018	S-1	333- 224488	4.2	4/27/18	
5.1	Opinion of Conyers Dill & Pearman Limited, Bermuda counsel of the Registrant, as to the validity of the Class A common shares offered by the selling shareholders					*
23.1	Consent of Conyers Dill & Pearman Limited, Bermuda counsel of the Registrant (included in Exhibit 5.1)					*
23.2	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm					*
24.1	<u>Powers of Attorney (incorporated by reference to the</u> <u>signature page hereto)</u>					*
25.1	Statement of Eligibility on Form T-1 under the Trust Indenture Act of 1939, as amended					**

Filed herewith.

Item 17. Undertakings

- (a) The undersigned registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent posteffective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

^{**} To be filed by amendment or incorporated by reference in connection with the offering of the securities.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii), and (a)(1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

II-3

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communications that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(h) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(j) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act (the "Act") in accordance with the rules and regulations prescribed by the SEC under section 305(b)(2) of the Act.

II-4

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the town of Weston, Commonwealth of Massachusetts, on the 21st day of May, 2020.

KINIKSA PHARMACEUTICALS, LTD.

By:

/s/ SANJ K. PATEL

Sanj K. Patel Chief Executive Officer and Chairman of the Board of Directors

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Sanj K. Patel and Michael R. Megna, or either of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to file and sign any and all amendments, including post-effective amendments and any registration statement for the same offering that is to be effective under Rule 462(b) of the Securities Act, to this registration statement, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitute or substitutes may lawfully do or cause to be done by virtue hereof. This power of attorney shall be governed by and construed with the applicable federal securities laws.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed below by the following persons on behalf of the registrant in the capacities and on the dates indicated.

Signature	Title	Date	
/s/ SANJ K. PATEL Sanj K. Patel	Chief Executive Officer and Chairman of the Board of Directors (principal executive officer)	May 21, 2020	
/s/ MICHAEL R. MEGNA Michael R. Megna	V.P., Finance and Chief Accounting Officer (principal accounting officer)	May 21, 2020	
/s/ FELIX J. BAKER Felix J. Baker	Lead Independent Director	May 21, 2020	
	II-5		

Signature	Title	Date
/s/ STEPHEN R. BIGGAR	Distance	M 21, 2020
Stephen R. Biggar	Director	May 21, 2020
/s/ RICHARD S. LEVY	Director	May 21, 2020
Richard S. Levy	Director	Widy 21, 2020
/s/ THOMAS R. MALLEY	Director	May 21, 2020
Thomas R. Malley	Director	May 21, 2020
/s/ TRACEY L. MCCAIN	Director	May 21, 2020
Tracey L. McCain	Director	May 21, 2020
/s/ KIMBERLY J. POPOVITS	Director	May 21, 2020
Kimberly J. Popovits	Director	Widy 21, 2020
/s/ BARRY D. QUART	Director	May 21, 2020
Barry D. Quart	Director	wiay 21, 2020
	II-6	

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the duly authorized representative in the United States of the Registrant has signed this registration statement, on the 21st day of May, 2020.

KINIKSA PHARMACEUTICALS CORP.

By: /s/ SANJ. K. PATEL

Sanj K. Patel Chief Executive Officer

Exhibit 5.1

CONYERS DILL & PEARMAN LIMITED

Clarendon House, 2 Church Street Hamilton HM 11, Bermuda

Mail: PO Box HM 666, Hamilton HM CX, Bermuda T +1 441 295 1422

conyers.com

CONYERS

21 May 2020

Kiniksa Pharmaceuticals, Ltd. Clarendon House 2 Church Street Hamilton HM 11 Bermuda

Dears Sirs

Re: Kiniksa Pharmaceuticals, Ltd. (the "Company")

We have acted as special Bermuda legal counsel to the Company in connection with a registration statement on form S-3 filed with the U.S. Securities and Exchange Commission (the "Commission") on May 21, 2020 (as amended, the "Registration Statement", which term does not include any other document or agreement whether or not specifically referred to therein or attached as an exhibit or schedule thereto) relating to the shelf registration under the U.S. Securities Act of 1933, as amended, (the "Securities Act") of 1,600,000 Class A common shares, par value US\$0.000273235 each of the Company (the "Selling Shareholder Shares"), to be resold from time to time by the shareholders of the Company (the "Selling Shareholders") identified as such in the Registration Statement.

For the purposes of giving this opinion, we have examined a copy of the Registration Statement. We have also reviewed the memorandum of association and the bye-laws of the Company (together, the "Constitutional Documents"), each certified by the Secretary of the Company on May 21, 2020, resolutions adopted at a meeting of its directors held on May 11, 2020 as certified by the Secretary of the Company on May 21, 2020 (the "Resolutions") and such other documents and made such enquiries as to questions of law as we have deemed necessary in order to render the opinion set forth below.

We have assumed (a) the genuineness and authenticity of all signatures and the conformity to the originals of all copies (whether or not certified) examined by us and the authenticity and completeness of the originals from which such copies were taken, (b) that where a document has been examined by us in draft form, it will be or has been executed and/or filed in the form of that draft, and where a number of drafts of a document have been examined by us all changes thereto have been marked or otherwise drawn to our attention, (c) the accuracy and completeness of all factual representations made in the Registration Statement and other documents reviewed by us, (d) that the Resolutions were passed at one or more duly convened, constituted and quorate meetings, or by unanimous written resolutions, remain in full force and effect and have not been, and will not be, rescinded or amended, (e) that the Constitutional Documents will not be amended in any manner that would affect the opinions expressed herein, (f) that there is no provision of the law of any jurisdiction, other than Bermuda, which would have any implication in relation to the opinions expressed herein, (g) that the Company will have sufficient authorised capital to effect the issue of the Selling Shareholder Shares at the time of issuance, (h) that the Company's shares will be listed on an appointed stock exchange, as defined in the Companies Act 1981, as amended (the "Companies Act"), which includes the NASDAQ, and the consent to the issue and free transfer of the Selling Shareholder Shares, (i) that the applicable purchase, underwriting or similar agreement and any other agreement or other document relating to any Selling Shareholder Shares will be valid and binding in accordance with its terms pursuant to its governing law; and (j) the Selling Shareholder Shares or other shares of the Company convertible into Selling Shareholder Shares at all relevant times.

We have made no investigation of and express no opinion in relation to the laws of any jurisdiction other than Bermuda. This opinion is to be governed by and construed in accordance with the laws of Bermuda and is limited to and is given on the basis of the current law and practice in Bermuda. This opinion is issued solely for the purposes of the filing of the Registration Statement and the sale of the Selling Shareholder Shares as described in the Registration Statement and is not to be relied upon in respect of any other matter.

On the basis of and subject to the foregoing we are of the opinion that:

- 1. The Company is duly incorporated and existing under the laws of Bermuda in good standing (meaning solely that it has not failed to make any filing with any Bermuda governmental authority or to pay any Bermuda government fee or tax which would make it liable to be struck off the Register of Companies and thereby cease to exist under the laws of Bermuda).
- 2. The Selling Shareholder Shares have been duly authorized by all necessary corporate action of the Company and are, or upon issue on conversion of convertible shares of the Company held by a Selling Shareholder will be, validly issued, fully paid and non-assessable (which term means when used herein that no further sums are required to be paid by the holders thereof in connection with the issue of the Selling Shareholder Shares).

We hereby consent to (i) the filing of this opinion as an exhibit to the Registration Statement and (ii) to the references to our firm under the caption "Legal Matters" in the prospectus forming a part of the Registration Statement. In giving such consent, we do not hereby admit that we are experts within the meaning of Section 11 of the Securities Act or that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission promulgated thereunder.

Yours faithfully,

/s/ Conyers Dill & Pearman Limited

Conyers Dill & Pearman Limited

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of Kiniksa Pharmaceuticals, Ltd. of our report dated March 5, 2020 relating to the financial statements, which appears in Kiniksa Pharmaceuticals, Ltd.'s Annual Report on Form 10-K for the year ended December 31, 2019. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts May 21, 2020

QuickLinks

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM