

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

**FORM S-3
REGISTRATION STATEMENT**

*Under
The Securities Act of 1933*

XENON PHARMACEUTICALS INC.

(Exact name of Registrant as specified in its charter)

Canada

(State or other jurisdiction of
incorporation or organization)

98-0661854

(I.R.S. Employer
Identification Number)

200 – 3650 Gilmore Way
Burnaby, British Columbia V5G 4W8 Canada
(604) 484-3300

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

Ian C. Mortimer
President and Chief Executive Officer
Xenon Pharmaceuticals Inc.
200 – 3650 Gilmore Way
Burnaby, British Columbia V5G 4W8 Canada
(604) 484 - 3300

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

Copies to:

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Approximate date of commencement of proposed sale to the public: **From time to time after the effective date of this Registration Statement, as the registrant shall determine.**

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

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.

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 upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

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.

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	<input type="checkbox"/>			Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>			Smaller reporting company	<input checked="" type="checkbox"/>
Emerging growth company	<input type="checkbox"/>				

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

CALCULATION OF REGISTRATION FEE

Title of each Class of Securities to be Registered(1)	Amount to be Registered(2)(3)	Proposed Maximum Offering Price Per Security(2)(3)	Proposed Maximum Aggregate Offering Price(2)(3)	Amount of Registration Fee(4)
Common Shares, no par value per share	—	—	—	—
Preferred Shares, no par value per share	—	—	—	—
Warrants	—	—	—	—
Units	—	—	—	—
Total	—	—	—	—

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, or the Securities Act, this registration statement shall also cover any additional shares of the Registrant's securities that become issuable by reason of any share splits, share dividends or similar transactions.
- (2) The securities registered hereunder include such indeterminate number of (i) common shares, (ii) preferred shares, (iii) warrants to purchase common shares or preferred shares of the Registrant, and (iv) units consisting of some or all of these securities, as may be sold from time to time by the Registrant. Any securities registered hereunder may be sold separately or as units with other securities registered hereunder. There are also being registered hereunder an indeterminate number of common shares and preferred shares as shall be issuable upon conversion, exchange or exercise of any securities that provide for such issuance. Separate consideration may or may not be received for securities that are issuable on exercise, conversion or exchange of other securities, or that are issued in units.
- (3) Omitted Pursuant to Form S-3 General Instruction II.E.
- (4) In accordance with Rules 456(b) and 457(r) under the Securities Act, the Registrant is deferring payment of the registration fee. Any registration fees will be paid subsequently on a pay-as-you-go basis in accordance with Rule 457(r).
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Xenon Pharmaceuticals Inc.

Common Shares

Preferred Shares

Warrants

Units

We may offer and sell from time to time, in one or more series or issuances and on terms that we will determine at the time of the offering, any combination of the securities described in this prospectus, either individually or as units comprised of one or more of the other classes of securities.

This prospectus provides a general description of the securities we may offer. Each time we offer and sell securities, we will provide specific terms of the securities offered in a supplement to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. A prospectus supplement and any free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement, and any related free writing prospectus, as well as the documents incorporated or deemed to be incorporated by reference in this prospectus, before you invest in any of our securities offered hereby.

This prospectus may not be used to consummate a sale of any securities unless it is accompanied by a prospectus supplement.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, broker-dealers, agents, directly to purchasers, or through any other means described in this prospectus under “Plan of Distribution” and in supplements to this prospectus in connection with a particular offering of securities. If any underwriters, dealers or agents are involved in the sale of any of these securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common shares are listed on The Nasdaq Global Market, or Nasdaq, under the symbol “XENE.” On October 1, 2021, the last reported sale price of our common shares on Nasdaq was \$15.60. There is currently no market for the other securities we may offer; however, we will provide information in any applicable prospectus supplement regarding any listing of securities other than our common shares on any securities exchange.

INVESTING IN OUR SECURITIES INVOLVES SIGNIFICANT RISKS. PLEASE CAREFULLY READ THE INFORMATION UNDER THE HEADINGS “RISK FACTORS” BEGINNING ON PAGE 4 OF THIS PROSPECTUS AND “ITEM 1A – RISK FACTORS” OF OUR MOST RECENT REPORT ON FORM 10-K OR 10-Q THAT IS INCORPORATED BY REFERENCE IN THIS PROSPECTUS BEFORE YOU INVEST IN OUR SECURITIES.

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

The date of this prospectus is October 4, 2021.

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ABOUT THIS PROSPECTUS

This prospectus is part of an automatic shelf registration statement that we filed with the Securities and Exchange Commission, or the SEC, as a “well-known seasoned issuer” as defined in Rule 405 under the Securities Act of 1933, as amended, or the Securities Act. Under this shelf registration process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings. There is no limit on the aggregate amount of the securities that we may offer pursuant to the registration statement of which this prospectus forms a part. This prospectus provides you with a general description of the securities we may offer.

Each time we sell securities, we will provide one or more prospectus supplements that will contain specific information about the terms of the 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, hereinafter referred to as an issuer free writing prospectus. The prospectus supplement and any issuer free writing prospectus may also add to, update or change information contained in the prospectus and, accordingly, to the extent inconsistent, information in this prospectus is superseded by the information in the prospectus supplement or the issuer free writing prospectus, as applicable. You should carefully read this prospectus, any prospectus supplement, and any issuer free writing prospectus, together with the additional information described under the heading “Information Incorporated by Reference.”

The prospectus supplement to be attached to the front of this prospectus may describe, as applicable, the terms of the securities offered; the initial price to the public; the price paid for the securities; net proceeds; and the other specific terms related to the offering of the securities.

THIS PROSPECTUS MAY NOT BE USED TO OFFER AND SELL SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

You should only rely on the information contained or incorporated by reference in this prospectus and any prospectus supplement or issuer free writing prospectus relating to a particular offering. No person has been authorized to give any information or make any representations in connection with this offering other than those contained or incorporated by reference in this prospectus, any accompanying prospectus supplement and any related issuer free writing prospectus in connection with the offering described herein and therein, and, if given or made, such information or representations must not be relied upon as having been authorized by us. Neither this prospectus nor any prospectus supplement nor any related issuer free writing prospectus shall constitute an offer to sell or a solicitation of an offer to buy offered securities in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation. This prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits.

You should read the entire prospectus and any prospectus supplement and any related issuer free writing prospectus, as well as the documents incorporated by reference into this prospectus or any prospectus supplement or any related issuer free writing prospectus, before making an investment decision. Neither the delivery of this prospectus or any prospectus supplement or any issuer free writing prospectus nor any sale made hereunder shall under any circumstances imply that the information contained or incorporated by reference herein or in any prospectus supplement or issuer free writing prospectus is correct as of any date subsequent to the date hereof or of such prospectus supplement or issuer free writing prospectus, as applicable. You should assume that the information appearing in this prospectus, any prospectus supplement, any issuer free writing prospectus, or any document incorporated by reference is accurate only as of the date of the applicable documents, regardless of the time of delivery of this prospectus or any sale of securities. Our business, financial condition, results of operations and prospects may have changed since that date.

PROSPECTUS SUMMARY

This summary highlights selected information that is presented in greater detail elsewhere, or incorporated by reference, in this prospectus. It does not contain all of the information that may be important to you and your investment decision. Before investing in our securities, you should carefully read this entire prospectus, including the matters set forth under the section of this prospectus captioned “Risk Factors” and the financial statements and related notes and other information that we incorporate by reference herein, including our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q. Unless the context indicates otherwise, references in this prospectus to “Xenon Pharmaceuticals Inc.,” “we,” “our” and “us” refer, collectively, to Xenon Pharmaceuticals Inc. and its wholly-owned subsidiary.

Overview

We are a clinical stage biopharmaceutical company committed to developing innovative therapeutics to improve the lives of patients with neurological disorders. We are advancing a novel product pipeline of neurology-focused therapies to address areas of high unmet medical need, with a focus on epilepsy. In addition to our proprietary product candidates, we also have partnered programs with several pharmaceutical companies, including Neurocrine Biosciences, Inc., or Neurocrine Biosciences, and Flexion Therapeutics, Inc., or Flexion.

Our proprietary product candidates include:

- XEN1101, a differentiated Kv7 potassium channel modulator being developed for the treatment of epilepsy, major depressive disorder and potentially other neurological disorders.
- XEN496, a Kv7 potassium channel modulator, is a proprietary pediatric formulation of the active ingredient ezogabine being developed for the treatment of KCNQ2 developmental and epileptic encephalopathy.
- XEN007 (active ingredient flunarizine) is a CNS-acting Cav2.1 and T-type calcium channel modulator that is being studied in treatment-resistant absence seizures and potentially other neurological disorders.

Our clinical stage partnered programs include:

- Our ongoing collaboration with Neurocrine Biosciences to develop treatments for epilepsy. Neurocrine Biosciences has an exclusive license to XEN901, now known as NBI-921352, a clinical stage selective Nav1.6 sodium channel inhibitor with potential in SCN8A developmental and epileptic encephalopathy and other forms of epilepsy.
- Flexion acquired the global rights to develop and commercialize XEN402, a Nav1.7 inhibitor also known as funapide. Flexion’s FX301 consists of XEN402 formulated for extended release from a thermosensitive hydrogel. The initial development of FX301 is intended to support administration as a peripheral nerve block for control of post-operative pain.

In addition to current product candidates in development and our partnered programs, we intend to expand our pipeline from our internal research efforts and may expand our pipeline through the acquisition or in-licensing of other product candidates.

Corporate Information

We were incorporated in the Province of British Columbia on November 5, 1996 under the predecessor to the Business Corporations Act (British Columbia) under the name “Xenon Bioresearch Inc.” We continued from British Columbia to the federal jurisdiction pursuant to Section 187 of the Canada Business Corporations Act, or the CBCA, on May 17, 2000 and concurrently changed our name to “Xenon Genetics Inc.” We registered as an extra-provincial company in British Columbia on July 10, 2000 and changed our name to “Xenon Pharmaceuticals Inc.” on August 24, 2004. We have one wholly-owned subsidiary as of December 31, 2020, Xenon Pharmaceuticals USA Inc., which was incorporated in Delaware on December 2, 2016. Our principal executive offices are located at 200 – 3650 Gilmore Way, Burnaby, British Columbia, Canada V5G 4W8, and our telephone number is (604) 484-3300. Our website address is <http://www.xenon-pharma.com>. The information on, or that can be accessed through, our website is not incorporated by reference into this prospectus and should not be considered to be a part of this prospectus.

“Xenon,” the Xenon logo and other trademarks or service marks of Xenon appearing in this prospectus are trademarked and are the property of Xenon Pharmaceuticals Inc. This prospectus contains references to our trademarks and service marks and to those 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 ™ symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other entities’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

The Securities We May Offer

We may offer and sell common shares, preferred shares, warrants and/or units in one or more offerings and in any combination, either individually or as units comprised of one or more of the other classes of securities. This prospectus provides you with a general description of the securities we may offer. A prospectus supplement, which we will provide each time we offer securities, will describe the specific amounts, prices and terms of these securities.

We may sell the securities to or through underwriters, dealers or agents or directly to purchasers or as otherwise set forth in the section of this prospectus captioned “Plan of Distribution.” We, as well as any agents acting on our behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Each prospectus supplement will set forth the names of any underwriters, dealers, agents or other entities involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

Common Shares

Each holder of one common share is entitled to one vote for each common share on all matters submitted to a vote of the shareholders, including the election of directors. There are no cumulative voting rights. Subject to preferences that may be applicable to any then outstanding preferred shares, holders of common shares are entitled to receive ratably those dividends, if any, as may be declared from time to time by our board of directors out of legally available funds. In the event of our liquidation, dissolution or winding up, holders of common shares will be entitled to share ratably in the net assets legally available for distribution to shareholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding preferred shares.

Preferred Shares

Our board of directors has the authority, without further action by the shareholders, to issue an unlimited number of preferred shares in one or more series. Subject to the provisions of the CBCA and the provisions of our outstanding Series 1 preferred shares, our board of directors has the discretion to determine the rights, preferences, privileges, restrictions and conditions, including, among others, dividend rights, conversion rights, voting rights, redemption rights, and liquidation preference of each series of preferred shares. As of June 30, 2021, there were 1,016,000 Series 1 preferred shares outstanding. Any new series of preferred shares authorized by our board of directors will have rights, preferences and privileges that are substantially the same as our Series 1 preferred shares. For additional information regarding our Series 1 preferred shares, see the section of this prospectus titled “Description of Share Capital – Series 1 Preferred Shares.”

Each series of preferred shares will be more fully described in the particular prospectus supplement that will accompany this prospectus, including redemption provisions, rights in the event of our liquidation, dissolution or winding up, dividend and voting rights and rights to convert into common shares. No rights, privileges, restrictions or conditions attached to a series of preferred shares shall confer on a series a priority in respect of dividends or return of capital over any other series of preferred shares that are then outstanding.

If any cumulative dividends or amounts payable on return of capital in respect of a series of preferred shares are not paid in full, all series of the preferred shares participate ratably in respect of accumulated dividends and return of capital.

Warrants

We may issue warrants for the purchase of common shares or preferred shares. We may issue warrants independently or together with other securities.

Units

We may issue units comprised of one or more of the other classes of securities issued by us as described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit.

RISK FACTORS

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading “Risk Factors” in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under “Part I—Item 1A—Risk Factors,” of our most recent Annual Report on Form 10-K and in “Part II—Item 1A—Risk Factors” in our most recent Quarterly Report on Form 10-Q, filed subsequent to such Form 10-K that are incorporated herein by reference, as may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future and any prospectus supplement related to a particular offering. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, each prospectus supplement and the information incorporated by reference in this prospectus and each prospectus supplement contain certain statements that constitute forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. The words “aim,” “anticipate,” “assume,” “believe,” “contemplate,” “continue,” “could,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “predict,” “positioned,” “potential,” “seek,” “should,” “target,” “will,” “would” and similar expressions and variations thereof are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements. Those statements appear in this prospectus, any accompanying prospectus supplement and the documents incorporated herein and therein by reference, particularly in the sections captioned “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business” and include statements regarding the intent, belief or current expectations of our management that are subject to known and unknown risks, uncertainties and assumptions. You are cautioned that any such forward-looking statements are not guarantees of future performance and involve risks and uncertainties, and that actual results may differ materially from those projected in the forward-looking statements as a result of various factors.

Forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those anticipated in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those described in “Risk Factors”, elsewhere in this prospectus or any applicable prospectus supplement and the documents incorporated by reference in this prospectus. Forward-looking statements are based on our management’s beliefs and assumptions and on information currently available to our management. These statements, like all statements in this prospectus, speak only as of their date, and we undertake no obligation to update or revise these statements in light of future developments, except as required by law.

This prospectus, any accompanying prospectus supplement and the documents incorporated herein and therein by reference may also contain estimates and other information concerning our industry that are based on government and industry publications. This information involves a number of assumptions and limitations, and you are cautioned not to give undue weight to these estimates. These government and industry publications generally indicate that their information has been obtained from sources believed to be reliable.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and although we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted a thorough inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

USE OF PROCEEDS

Specific information about the use of proceeds from the specific issuance of any securities will be set forth in the applicable prospectus supplement.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our common shares or any other securities. We currently anticipate that we will retain all available funds and any future earnings, if any, in the foreseeable future for use in the operation of our business and do not currently anticipate paying cash dividends in the foreseeable future. Payment of future cash dividends, if any, will be at the discretion of the board of directors, subject to applicable law and will depend on various factors, including our financial condition, operating results, current and anticipated cash needs, the requirements of current or then-existing debt instruments and other factors the board of directors deems relevant.

DESCRIPTION OF SHARE CAPITAL

The description of our share capital is incorporated by reference to Exhibit 4.4 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 9, 2020.

DESCRIPTION OF THE WARRANTS

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

- the specific designation and aggregate number of, and the offering price at which we will issue, the warrants;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants are to be sold separately or with other securities as parts of units;
- whether the warrants will be issued in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- the designation and terms of any equity securities purchasable upon exercise of the warrants;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;
- the number of common shares or preferred shares that may be purchased upon exercise of a warrant and the exercise price for the warrants;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book entry procedures, if any;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. and Canadian federal income tax considerations;

- the anti-dilution provisions, and other provisions for changes to or adjustments in the exercise price, of the warrants, if any;
- the redemption or call provisions, if any, applicable to the warrants;
- any adjustments to the terms of the warrants resulting from the occurrence of certain events or from the entry into or consummation by us of certain transactions;
- any provisions with respect to the holder's right to require us to repurchase the warrants upon a change in control or similar event; and
- any additional terms of the warrants, including procedures and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of warrants will not be entitled:

- to vote or receive dividends;
- receive notice with respect to any meeting of shareholders for the election of our directors or any other matter; or
- exercise any rights as shareholders of us.

This summary of certain provisions of the warrants is not complete. For the terms of a particular series of warrants, you should refer to the prospectus supplement for that series of warrants and the warrant agreement for that particular series.

DESCRIPTION OF THE UNITS

We may issue units comprising two or more securities described in this prospectus in any combination. The following description sets forth certain general terms and provisions of the units that we may offer pursuant to this prospectus. The particular terms of the units and the extent, if any, to which the general terms and provisions may apply to the units so offered will be described in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the unit will have the rights and obligations of a holder of each included security. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date. A copy of the forms of the unit agreement and the unit certificate relating to any particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the unit agreement and the related unit certificate, see the section of this prospectus captioned "Where You Can Find More Information."

The prospectus supplement relating to any particular issuance of units will describe the terms of those units, including, to the extent applicable, the following:

- the designation and terms of the units and the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer or exchange of the units or the securities comprising the units;
- a discussion of material U.S. and Canadian federal income tax considerations, if applicable; and
- whether the units will be issued in fully registered or global form.

PLAN OF DISTRIBUTION

We may sell the securities offered through this prospectus (1) to or through underwriters or dealers, (2) directly to purchasers, including our affiliates, (3) through agents, or (4) through a combination of any these methods. The securities may be distributed at a fixed price or prices, which may be changed, market prices prevailing at the time of sale, prices related to the prevailing market prices, or negotiated prices.

The prospectus supplement relating to any offering will include the following information:

- the terms of the offering;
- the names of any underwriters or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price of the securities;
- the net proceeds from the sale of the securities;
- any delayed delivery arrangements
- any underwriting discounts, commissions or agency fees and other items constituting underwriters' or agents' compensation;
- any initial price to public;
- any exchanges on which the securities will be listed;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any commissions paid to agents.

In addition, the manner in which we may sell some or all of the securities covered by this prospectus includes, without limitation, through:

- a block trade in which a broker-dealer will attempt to sell as agent, but may position or resell a portion of the block, as principal, in order to facilitate the transaction;
- purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account;
- ordinary brokerage transactions and transactions in which a broker solicits purchasers; or
- privately negotiated transactions.

We may engage in at-the-market offerings into an existing trading market in accordance with Rule 415(a)(4) in the manner described below under “—At-the-Market Offerings.”

Sales through Underwriters or Dealers

If underwriters are used in the sale, the underwriters will acquire the securities for their own account, including through underwriting, purchase, security lending or repurchase agreements with us. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions. Underwriters may sell the securities in order to facilitate transactions in any of our other securities (described in this prospectus or otherwise), including other public or private transactions and short sales. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless otherwise indicated in the prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them (other than any securities purchased upon exercise of any option to purchase additional securities). In connection with any offering of securities pursuant to this prospectus, underwriters may have an option to purchase additional securities from us. We will provide information regarding any such option to purchase additional securities from us in the applicable prospectus supplement. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers. The prospectus supplement will include the names of the principal underwriters the respective amount of securities underwritten, the nature of the obligation of the underwriters to take the securities and the nature of any material relationship between an underwriter and us.

Some or all of the securities that we offer through this prospectus may be new issues of securities with no established trading market. Any underwriters to whom we sell securities for public offering and sale may make a market in those securities, but they will not be obligated to do so and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities offered pursuant to this prospectus.

If dealers are used in the sale of securities offered through this prospectus, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. The prospectus supplement will include the names of the dealers and the terms of the transaction.

Direct Sales and Sales through Agents

We may sell the securities offered through this prospectus directly. In this case, no underwriters or agents would be involved. Such securities may also be sold through agents designated from time to time. The applicable prospectus supplement will name any agent involved in the offer or sale of the offered securities and will describe any commissions payable to the agent by us. Unless otherwise indicated in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. The terms of any such sales will be described in the prospectus supplement.

Delayed Delivery Contracts

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

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery.

The underwriters and other persons acting as agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

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

At-the-Market Offerings

To the extent that we make sales through one or more underwriters or agents in at-the-market offerings, we will do so pursuant to the terms of a sales agency financing agreement or other at-the-market offering arrangement between us, on one hand, and the underwriters or agents, on the other. If we engage in at-the-market sales pursuant to any such agreement, we will issue and sell our securities through one or more underwriters or agents, which may act on an agency basis or a principal basis. During the term of any such agreement, we may sell securities on a daily basis in exchange transactions or otherwise as we agree with the underwriters or agents. Any such agreement will provide that any securities sold will be sold at prices related to the then prevailing market prices for our securities. Therefore, exact figures regarding proceeds that will be raised or commissions to be paid cannot be determined as of the date of this prospectus. Pursuant to the terms of the agreement, we may agree to sell, and the relevant underwriters or agents may agree to solicit offers to purchase, blocks of our common shares or other securities. The terms of any such agreement will be set forth in more detail in the applicable prospectus or prospectus supplement.

Market Making, Stabilization, Other Transactions and Settlement

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

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

Unless the applicable prospectus supplement states otherwise, each offered security will be a new issue and will have no established trading market, with the exception of our common shares. We may elect to list any offered securities on an exchange. Any underwriters that we use in the sale of offered securities may make a market in such securities, but may discontinue such market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities offered pursuant to this prospectus.

Derivative Transactions and Hedging

We, the underwriters or other agents may engage in derivative transactions involving the securities. These derivatives may consist of short sale transactions and other hedging activities. The underwriters or agents may acquire a long or short position in the securities, hold or resell securities acquired and purchase options or futures on the securities and other derivative instruments with returns linked to or related to changes in the price of the securities. In order to facilitate these derivative transactions, we may enter into security lending or repurchase agreements with the underwriters or agents. The underwriters or agents may effect the derivative transactions through sales of the securities to the public, including short sales, or by lending the securities in order to facilitate short sale transactions by others. The underwriters or agents may also use the securities purchased or borrowed from us or others (or, in the case of derivatives, securities received from us in settlement of those derivatives) to directly or indirectly settle sales of the securities or close out any related open borrowings of the securities.

Electronic Auctions

We may also make sales through the Internet or through other electronic means. Since we may from time to time elect to offer securities directly to the public, with or without the involvement of agents, underwriters or dealers, utilizing the Internet or other forms of electronic bidding or ordering systems for the pricing and allocation of such securities, you should pay particular attention to the description of that system we will provide in a prospectus supplement.

Such electronic system may allow bidders to directly participate, through electronic access to an auction site, by submitting conditional offers to buy that are subject to acceptance by us, and which may directly affect the price or other terms and conditions at which such securities are sold. These bidding or ordering systems may present to each bidder, on a so-called “real-time” basis, relevant information to assist in making a bid, such as the clearing spread at which the offering would be sold, based on the bids submitted, and whether a bidder’s individual bids would be accepted, prorated or rejected.

Upon completion of such an electronic auction process, securities will be allocated based on prices bid, terms of bid or other factors. The final offering price at which securities would be sold and the allocation of securities among bidders would be based in whole or in part on the results of the Internet or other electronic bidding process or auction.

General Information

Agents, underwriters, and dealers may be entitled, under agreements entered into with us, to indemnification by us against certain liabilities, including liabilities under the Securities Act. Our agents, underwriters, and dealers, or their affiliates, may be customers of, engage in transactions with or perform services for us, in the ordinary course of business.

MATERIAL INCOME TAX CONSIDERATIONS

The applicable prospectus supplement may describe material U.S. federal income tax consequences of the acquisition, ownership and disposition of any of the securities offered by such prospectus supplement by an investor who is subject to U.S. federal taxation.

The applicable prospectus supplement may also describe material Canadian federal income tax considerations generally applicable to investors described therein of purchasing, holding and disposing of securities offered by such prospectus supplement, including, in the case of an investor who is not a resident of Canada, Canadian non-resident withholding tax considerations.

You should read the tax discussion in any prospectus supplement with respect to a particular offering and consult your own tax advisors with respect to the specific tax consequences of the acquisition, ownership and disposition of the securities offered by such prospectus supplement, including the applicability and effect of state, local and non-U.S. or Canadian tax laws, as well as U.S. and Canadian federal tax laws.

LEGAL MATTERS

We are being represented by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California. Certain legal matters relating to the securities offered by this prospectus under Canadian laws will be passed upon for us by Blake, Cassels & Graydon LLP, Vancouver, British Columbia. Additional legal matters may be passed on for us, or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements of Xenon Pharmaceuticals Inc. as of December 31, 2020 and 2019, and for each of the years in the two-year period ended December 31, 2020 have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, also incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other 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>. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge through the Internet. These filings will be available as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. You may also access these filings through our website at www.xenon-pharma.com.

We have filed with the SEC a registration statement under the Securities Act relating to the offering of these securities. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can obtain a copy of the registration statement, at prescribed rates, from the SEC as discussed above. The registration statement and the documents referred to below under "Incorporation by Reference" are also available on our Internet website, www.xenon-pharma.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

Forms of any documents establishing the terms of the offered securities are filed as exhibits to the registration statement of which this prospectus forms a part or under cover of a Current Report on Form 8-K and incorporated in this prospectus by reference. 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 read the actual documents for a more complete description of the relevant matters.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference much of the information that we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated by reference in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (in each case, other than those documents or the portions of those documents furnished pursuant to Items 2.02 or 7.01 of any Current Report on Form 8-K and, except as may be noted in any such Form 8-K, exhibits filed on such form that are related to such information), until the offering of the securities under the registration statement of which this prospectus forms a part is terminated or completed:

- our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2020, filed with the SEC on March 1, 2021;
- the portions of our Definitive Proxy Statement on [Schedule 14A](#) (other than information furnished rather than filed) that are incorporated by reference into our Annual Report on Form 10-K, filed with the SEC on April 28, 2021;
- our Quarterly Reports on Form 10-Q for the quarters ended [March 31, 2021](#) and [June 30, 2021](#), filed with the SEC on May 11, 2021, and August 11, 2021, respectively;
- our Current Reports on Form 8-K filed with the SEC on [January 14, 2021](#), [January 14, 2021](#) (amendment), [March 1, 2021](#) (only as to Item 5.02), [March 10, 2021](#), [March 12, 2021](#), [June 3, 2021](#), [August 23, 2021](#), [September 8, 2021](#) and [October 4, 2021](#); and
- the description of our common shares contained in our Registration Statement on [Form 8-A](#) as filed with the SEC on October 10, 2014 pursuant to Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

We will provide to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, at no cost to the requester, a copy of any and all of the information that is incorporated by reference in this prospectus.

Requests for such documents should be directed to:

Xenon Pharmaceuticals Inc.
Attn: Investor Relations
200 – 3650 Gilmore Way
Burnaby, BC V5G 4W8
Canada
(604) 484-3353

You may also access the documents incorporated by reference in this prospectus through our website at www.xenon-pharma.com. Except for the specific incorporated documents listed above, no information available on or through our website shall be deemed to be incorporated in this prospectus or the registration statement of which it forms a part.



Xenon Pharmaceuticals Inc.

**Common Shares
Preferred Shares
Warrants
Units**

PROSPECTUS

October 4, 2021

PART II
Information Not Required in Prospectus

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the estimated costs and expenses, other than underwriting discounts and commissions, payable by the Registrant in connection with the sale of the securities being registered.

Securities and Exchange Commission registration fee	\$	†
Accounting fees and expenses		*
Legal fees and expenses		*
Printing expenses		*
Transfer agent fees and expenses		*
Miscellaneous		*
Total	\$	*

† The SEC registration fee is being deferred pursuant to Rules 456(b) and 457(r) of the Securities Act of 1933, as amended, or the Securities Act.

* These fees and expenses depend on the securities offered and the number of issuances, which are indeterminable, and accordingly cannot be estimated as of the date of this prospectus. An estimate of the aggregate expenses in connection with the sale and distribution of the securities being offered will be included in the applicable prospectus supplement.

Item 15. Indemnification of Directors and Officers

Under the Canada Business Corporations Act, or CBCA, we may indemnify our current or former directors or officers or any other individuals who act or have acted at our request as a director or officer, or an individual acting in a similar capacity, of another entity, against all costs, charges, and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by the individual in respect of any civil, criminal, administrative, investigative or other proceeding in which the individual is involved because of his or her association with us or the other entity. The CBCA also provides that we may advance moneys to a director, officer or other individual for costs, charges and expenses reasonably incurred in connection with such a proceeding. The individual shall repay the moneys to us if indemnification of the individual is ultimately prohibited under the CBCA, as described below.

Indemnification is prohibited under the CBCA unless the individual:

- acted honestly and in good faith with a view to our best interests, or the best interests of the other entity for which the individual acted as director or officer or in a similar capacity at our request;
- in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, the individual had reasonable grounds for believing that his or her conduct was lawful; and
- was not judged by the court or other competent authority to have committed any fault or omitted to do anything that the individual ought to have done.

Our by-laws require us to indemnify each of our directors, officers, former directors and officers and persons who act or acted at our request as a director or officer, or in a similar capacity, of a body corporate. We will indemnify such individual against all costs, charges and expenses, including an amount paid to settle an action or proceeding to which the individual is made a party by reason of being or having been a director or officer of us or such body corporate. Our by-laws also require us to, with the approval of a court, indemnify such individual referred to above, in respect of an action by or on behalf of us or such body corporate to procure a judgment in its favor, to which the individual is made a party by reason of being or having been a director or an officer of us or such body corporate, against all costs, charges and expenses reasonably incurred by him in connection with such action. However, we shall not indemnify such individual if the individual did not act honestly and in good faith with a view to our best interests or, in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, the individual did not have reasonable grounds for believing that his or her conduct was lawful.

Our by-laws authorize us, with the approval of our board of directors, to purchase and maintain insurance for the benefit of each of our current or former directors or officers and each person who acts or acted at our request as a director or officer of another entity, against any liability incurred by him or her.

We have indemnification agreements with each of our directors and certain officers. As provided by our by-laws, these agreements, among other things, indemnify each director and officer to the fullest extent permitted by Canadian law, including indemnification of all costs, charges and expenses reasonably incurred by such person in any action or proceeding, including any action or proceeding by or in right of us, arising out of the person's services as a director or officer; provided that, we will not indemnify such individual if, among other things, he or she did not act honestly and in good faith with a view to our best interests and, in the case of a criminal or penal action, the individual did not have reasonable grounds for believing that his or her conduct was lawful.

We have purchased insurance policies which, within the limits and subject to the terms and conditions thereof, cover certain expenses and liabilities that may be incurred by our directors and officers in connection with proceedings that may be brought against them as a result of an act or omission committed or suffered while acting as a director or officer.

Insofar as indemnification of liabilities arising under the Securities Act may be permitted to members of our board of directors, officers or persons controlling us pursuant to the foregoing provisions, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Item 16. Exhibits

Exhibit Number	Description of Document	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
1.1*	Form of Underwriting Agreement.				
3.1	Articles of the Registrant.	10-Q	001-36687	3.1	December 15, 2014
3.1A	Articles of Amendment to the Articles of the Registrant, creating the Series 1 Preferred Shares.	8-K	001-36687	3.1	March 28, 2018
3.2	Amended and Restated By-laws of the Registrant.	10-Q	001-36687	3.2	December 15, 2014
4.1	Form of Common Share Certificate.	S-1/A	333-198666	4.1	October 6, 2014
4.2	Specimen Series 1 Preferred Share Certificate.	8-K	001-36687	4.1	March 28, 2018
4.3*	Form of Certificate of Designation.				
4.4*	Form of Preferred Share Certificate.				
4.5*	Form of Warrant Agreement.				
4.6*	Form of Warrant Certificate.				
4.7*	Form of Unit Agreement.				
5.1	Opinion of Blake, Cassels & Graydon LLP.				
23.1	Consent of KPMG LLP, Independent Registered Public Accounting Firm.				
23.2	Consent of Blake, Cassels & Graydon LLP (included in Exhibit 5.1).				
24.1	Power of Attorney (included on the signature page).				

* If applicable, to be filed by amendment or as an exhibit to a report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and incorporated herein by reference.

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;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective 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 a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(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), (ii), and (iii) of this section 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 part of the registration statement.

(2) that, for the purpose of determining any liability under the Securities Act, 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.

(4) that, for the purpose of determining liability under the Securities Act to any purchaser:

(i) 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

(ii) 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 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 or made in a document incorporated or deemed incorporated by reference into the 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.

(5) that, for the purpose of determining liability of the Registrant under the Securities Act 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) 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 communication that is an offer in the offering made by the undersigned Registrant to the purchaser.

(6) that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or 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.

(b) Insofar as indemnification for liabilities arising under the Securities Act 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 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 Act and will be governed by the final adjudication of such issue.

Signatures

Pursuant to the requirements of the Securities Act of 1933, 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 City of Burnaby, British Columbia, Canada on October 4, 2021.

XENON PHARMACEUTICALS INC.

By: /s/ Ian Mortimer

Ian Mortimer

President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Ian Mortimer and Sherry Aulin 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 (including his or her capacity as a director and/or officer of Xenon Pharmaceuticals Inc.) to sign any and all amendments to this registration statement, including post-effective amendments, and registration statements filed pursuant to Rule 462 under the Securities Act, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, 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 they, he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agents or any of them, or their, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Ian Mortimer</u> Ian Mortimer	President, Chief Executive Officer and Director (Principal Executive Officer)	October 4, 2021
<u>/s/ Sherry Aulin</u> Sherry Aulin	Chief Financial Officer (Principal Financial and Accounting Officer)	October 4, 2021
<u>/s/ Simon Pimstone</u> Simon Pimstone	Executive Chair of the Board of Directors	October 4, 2021
<u>/s/ Mohammad Azab</u> Mohammad Azab	Director	October 4, 2021
<u>/s/ Steve Gannon</u> Steve Gannon	Director	October 4, 2021
<u>/s/ Elizabeth Garofalo</u> Elizabeth Garofalo	Director	October 4, 2021
<u>/s/ Michael Hayden</u> Michael Hayden	Director	October 4, 2021
<u>/s/ Patrick Machado</u> Patrick Machado	Director	October 4, 2021
<u>/s/ Gary Patou</u> Gary Patou	Director	October 4, 2021
<u>/s/ Dawn Svoronos</u> Dawn Svoronos	Director	October 4, 2021



Blake, Cassels & Graydon LLP
Barristers & Solicitors
Patent & Trade-mark Agents
595 Burrard Street, P.O. Box 49314
Suite 2600, Three Bentall Centre
Vancouver BC V7X 1L3 Canada
Tel: 604-631-3300 Fax: 604-631-3309

October 4, 2021

Reference:191296/1

Xenon Pharmaceuticals Inc.
200 – 3650 Gilmore Way
Burnaby, BC V5G 4W8
Canada

RE: Registration Statement on Form S-3 of Xenon Pharmaceuticals Inc. (the “Company”)

We have acted as Canadian counsel to the Company, a corporation continued under the federal laws of Canada, in connection with the Registration Statement on Form S-3 (the “**Registration Statement**”) to be filed by the Company with the U.S. Securities and Exchange Commission (the “**SEC**”) relating to the registration under the Securities Act of 1933, as amended (the “**Act**”), of the Securities (as defined below). The Registration Statement relates to the proposed offer, issuance and sale by the Company, from time to time as set forth in the Registration Statement, the prospectus contained therein (the “**Prospectus**”) and the supplements referred to therein (the “**Prospectus Supplements**”), of an unlimited number of (a) common shares of the Company (the “**Common Shares**”), (b) preferred shares of the Company (the “**Preferred Shares**”), (c) warrants of the Company (the “**Warrants**”) to purchase Common Shares or Preferred Shares and (d) units of the Company (the “**Units**”) consisting of Common Shares, Preferred Shares, Warrants or any combination of the foregoing (the Common Shares, Preferred Shares, Warrants and Units are collectively referred to herein as the “**Securities**”), all of which may be issued from time to time on a delayed or continuous basis pursuant to Rule 415 under the Act.

ASSUMPTIONS

We have examined instruments, documents, certificates and records which we have deemed relevant and necessary for the basis of our opinions hereinafter expressed. In such examination, we have assumed:

- (a) the authenticity of documents purporting to be originals or photostatic or facsimile copies of originals;
 - (b) the conformity to originals of documents purporting to be photostatic or facsimile copies of originals;
 - (c) the genuineness of all signatures on all documents reviewed by us;
 - (d) the truth, accuracy and completeness of the information, representations and warranties contained in the records, documents, instruments and certificates we have reviewed;
 - (e) at the time of any offer and sale of the Securities, the Company will validly exist and be duly qualified and in good standing under the *Canada Business Corporations Act*;
 - (f) the Registration Statement, and any amendments thereto (including post-effective amendments), will have become effective under the Act;
-

- (g) a Prospectus Supplement will have been filed with the SEC describing the Securities offered thereby;
- (h) all Securities will be issued and sold in compliance with applicable provincial, Federal and state securities laws and in the manner stated in the Registration Statement and the applicable Prospectus Supplement;
- (i) a definitive purchase, underwriting, placement agency or similar agreement with respect to any Securities offered will have been duly authorized and validly executed and delivered by the Company and the other parties thereto;
- (j) the Warrants and any agreements executed and delivered by the Company with respect to the Warrants, including the certificates representing the Warrants (collectively, the "**Warrant Documents**"), will be governed by and interpreted in accordance with the laws of the Province of British Columbia and the laws of Canada applicable therein;
- (k) the Units and any agreements executed and delivered by the Company with respect to the Units, including the certificates representing the Units (collectively, the "**Unit Documents**"), will be governed by and interpreted in accordance with the laws of the Province of British Columbia and the laws of Canada applicable therein;
- (l) insofar as any obligation under any of the Warrant Documents or Unit Documents applicable to the Warrants or the Units, respectively, is to be performed in any jurisdiction outside of the Province of British Columbia, its performance will not be illegal or unenforceable by virtue of the laws of that other jurisdiction;
- (m) any Securities issuable upon conversion, exchange, redemption, or exercise of any Securities being offered will be duly authorized, created and, if appropriate, allotted and reserved for issuance upon such conversion, exchange, redemption or exercise; and
- (n) with respect to the Common Shares or Preferred Shares offered by the Company, there will be sufficient Common Shares or Preferred Shares authorized under the Company's organizational documents and not otherwise reserved for issuance.

We have also considered such questions of law as we have deemed relevant and necessary as a basis for our opinions hereinafter expressed. With respect to the accuracy of factual matters material to our opinions hereinafter expressed, we have relied upon certificates or comparable documents and representations of public officials and of officers and representatives of the Company.

The opinions expressed herein are limited to matters governed by the laws of the Province of British Columbia and the laws of Canada applicable therein.

Opinions

Based and relying upon the foregoing, and subject to the qualifications hereinafter expressed, we are of the opinion that:

1. With respect to the Common Shares, when (a) the Board of Directors of the Company or a duly constituted and acting committee thereof (such Board of Directors or committee being hereinafter referred to as the "**Board**") has taken all necessary corporate action to approve the issuance of and the terms of the offering of such Common Shares and all matters related thereto and (b) the Common Shares have been delivered either (i) in accordance with the applicable definitive purchase, underwriting, placement agency or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Common Shares, upon full payment of the consideration therefor provided for therein, or (ii) upon conversion or exercise of any other Security, in accordance with the terms of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the full consideration approved by the Board, then such Common Shares will be validly issued, fully paid and non-assessable shares in the capital of the Company.
 2. With respect to any particular series of Preferred Shares, when (a) the Board has taken all necessary corporate action to approve the issuance and terms of such Preferred Shares, the terms of the offering thereof, and all matters related thereto, including all applicable regulatory filings and (b) such Preferred Shares have been delivered either (i) in accordance with the applicable definitive purchase, underwriting, placement agency or similar agreement approved by the Board, or upon exercise of Warrants to purchase such Preferred Shares, upon full payment of consideration provided for therein, or (ii) upon conversion or exercise of any other Security, in accordance with the terms of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the full consideration approved by the Board, then such Preferred Shares will be validly issued, fully paid and non-assessable shares in the capital of the Company.
 3. With respect to the Warrants, when (a) the Board has taken all necessary corporate action to approve the issuance of and the terms of the Warrants and all matters related thereto and (b) the Warrants have been duly executed and delivered against full payment therefor, pursuant to the applicable definitive purchase, underwriting, warrant, placement agency or similar agreement duly authorized, executed and delivered by the Company and a warrant agent and the certificates for the Warrants have been duly executed and delivered by the Company and such warrant agent, then the Warrants will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.
 4. With respect to the Units, when (a) the Board has taken all necessary corporate action to approve the issuance of and the terms of the Units (including Securities underlying the Units) and all matters related thereto and (b) the Units (including Securities underlying the Units) have been duly executed and delivered against payment therefor, pursuant to the applicable definitive purchase, underwriting, unit, placement agency or similar agreement duly authorized, executed and delivered by the Company and the certificates for the Units have been duly executed and delivered in accordance with such purchase, underwriting, unit, placement agency or similar agreement, then the Units (including Securities underlying the Units) will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.
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QUALIFICATIONS

The opinions expressed above are subject to the following qualifications:

- (a) the opinions set forth herein are limited to matters governed by, and apply solely in connection to, the laws of the province of British Columbia and the laws of Canada applicable in British Columbia, in each case as they exist on the date of this opinion letter;
 - (b) the headings appearing in this opinion are for the convenience of reference only and in no way limit or enlarge the scope or meaning of the opinions expressed above;
 - (c) the enforceability of the Warrants and the Units is subject to bankruptcy, insolvency, reorganization, arrangement, winding-up, moratorium and other laws of general application limiting the enforcement of creditors' rights generally;
 - (d) the enforceability of the Warrants and the Units is subject to general equitable principles, including the fact that the availability of equitable remedies, such as injunctive relief and specific performance, is in the discretion of a court;
 - (e) the enforceability of any provision in any of the Warrant Documents or Unit Documents applicable to the Warrants or the Units, respectively, that purports to sever from such Warrants or Units, as the case may be, any provision that is prohibited or unenforceable under applicable law without affecting the enforceability of the remainder of such Warrants or Units, as the case may be, would be determined only in the discretion of a court;
 - (f) the recoverability of costs and expenses may be limited to those a court considers to be reasonably incurred and the costs and expenses incidental to all court proceedings are in the discretion of the court, and the court has the power to determine by whom and to what extent these costs shall be paid;
 - (g) the enforceability of any rights of indemnity or contribution in any of the Warrant Documents or Unit Documents applicable to the Warrants or the Units, respectively, may be limited by applicable law to the extent that such rights directly or indirectly relate to liabilities imposed by law for which it would be contrary to public policy to require a person to provide indemnification or contribution;
 - (h) the enforceability of the Warrants and the Units is subject to the provisions of the *Limitations Act* (British Columbia);
 - (i) courts in Canada are precluded from giving a judgment in any currency other than the lawful money of Canada;
 - (j) we express no opinion as to:
 - A. the enforceability of any provision in any of the Warrant Documents or Unit Documents applicable to the Warrants or the Units, respectively, to the extent it purports to exculpate a person from a liability or duty otherwise owed by it, waives rights or defenses or agrees not to challenge the validity or enforceability of remedies;
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- B. the enforceability of any provision in any of the Warrant Documents or Unit Documents applicable to the Warrants or the Units, respectively, that states that amendments or waivers of or with respect to the Warrants or the Units, as the case may be, that are not in writing will not be effective;
 - C. the enforceability of any provision in any of the Warrant Documents or Unit Documents applicable to the Warrants or the Units, respectively, to the extent it purports to exculpate any person from liability in respect of acts or omissions that may be illegal, fraudulent or involve willful misconduct; and
 - D. the enforceability of any provision in any of the Warrant Documents or Unit Documents applicable to the Warrants or the Units, respectively, purporting to confer any benefits thereunder on any third party;
- (k) we express no opinion as to compliance with the *Personal Information Protection and Electronic Documents Act* (Canada) or the *Personal Information Protection Act* (British Columbia); and
- (l) a court may decline to accept the factual and legal determinations of a party notwithstanding that a contract or instrument provides that the determinations of that party shall be conclusive.

* * *

We hereby expressly consent to the filing of this opinion as an exhibit to the Registration Statement and the use of our firm name wherever it appears in the Registration Statement, the Prospectus, any Prospectus Supplement, and in any amendment or supplement thereto. In giving this consent, we do not admit that we are included in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations promulgated thereunder.

This opinion is effective as at the date hereof and is based upon laws in effect and facts in existence as at the date hereof. We express no opinion as to the effect of future laws or judicial decisions on the subject matter hereof, nor do we undertake any duty to modify this opinion to reflect subsequent facts or developments concerning the Company or developments in the law occurring after the date hereof.

Yours truly,

/s/ Blake, Cassels & Graydon LLP



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CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Xenon Pharmaceuticals Inc.

We consent to the use of our report dated March 1, 2021, with respect to the consolidated financial statements of Xenon Pharmaceuticals Inc., incorporated herein by reference and to the reference to our firm under the heading “Experts” in the prospectus.

/s/ KPMG LLP
Chartered Professional Accountants

Vancouver, Canada
October 4, 2021

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