



Common shares

Pre-funded warrants to purchase common shares

This free writing prospectus relates only to the offering described below and should be read together with the preliminary prospectus supplement filed with the Securities and Exchange Commission (the "SEC") on March 9, 2026 relating to the proposed offering of common shares, no par value per share ("Common Shares") of Xenon Pharmaceuticals Inc. (the "Preliminary Prospectus Supplement"), including the documents incorporated by reference therein, and the accompanying prospectus. This free writing prospectus supplements the Preliminary Prospectus Supplement primarily to reflect the addition of pre-funded warrants, and the common shares issuable upon the exercise of such pre-funded warrants, to the securities being offered by Xenon Pharmaceuticals Inc. pursuant to the Preliminary Prospectus Supplement. Except as otherwise indicated, all information in this free writing prospectus and the Preliminary Prospectus Supplement, including the number of common shares that will be outstanding after the offering, assumes (i) no exercise by the underwriters of their option to purchase additional common shares and (ii) no exercise of any of the pre-funded warrants to be offered and sold by us in this offering.

This free writing prospectus is qualified in its entirety by reference to the Preliminary Prospectus Supplement, including the documents incorporated by reference therein, and the accompanying prospectus. Financial information and other information presented in the Preliminary Prospectus Supplement or incorporated by reference therein is deemed to have changed only to the extent affected by the changes described herein. This free writing prospectus should be read together with the Preliminary Prospectus Supplement, including the documents incorporated by reference therein, and the accompanying prospectus, before making a decision in connection with an investment in the securities. Capitalized terms used in this free writing prospectus but not defined have the meanings given to them in the Preliminary Prospectus Supplement.

The offering

Common shares offered by us	\$500.0 million of common shares (or \$575.0 million of common shares if the underwriters' option to purchase additional common shares is exercised in full).
Pre-funded warrants offered by us	We are also offering, in lieu of common shares to investors that so choose, pre-funded warrants to purchase common shares. The purchase price of each pre-funded warrant will equal the price per share at which common shares are being sold to the public in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant will equal \$0.0001 per share. Each pre-funded warrant will be exercisable from the date of issuance until the date the warrant is exercised in full, subject to an ownership limitation. See "Description of Pre-Funded Warrants" in this free writing prospectus. This free writing prospectus and the Preliminary Prospectus Supplement also relate to the offering of the common shares issuable upon exercise of the pre-funded warrants.

The lock-up restrictions described in the Preliminary Prospectus Supplement under “Underwriting” will not apply to our issuance of any common shares upon the exercise of the pre-funded warrants during the 90 day period following the date of the Preliminary Prospectus Supplement.

Option to purchase additional common shares

We have granted the underwriters an option to purchase up to \$75.0 million of additional common shares. This option is exercisable, in whole or in part, for a period of 30 days from the date of the Preliminary Prospectus Supplement.

Common shares to be outstanding after this offering

common shares (or common shares if the underwriters’ option to purchase additional common shares is exercised in full), in each case, assuming no exercise of any pre-funded warrants offered or sold by us.

Use of Proceeds

We estimate that the net proceeds to us from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us will be approximately \$ million, or approximately \$ million if the underwriters exercise their option to purchase additional common shares from us in full. We currently intend to use the net proceeds from this offering, together with our existing cash and cash equivalents and marketable securities, as follows: to progress our clinical development programs, fund pre-commercial and commercial activities, fund our discovery and pre-clinical activities and for other general corporate purposes. See “Use of proceeds” for additional information.

Nasdaq Global Market symbol

“XENE”

There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. We do not intend to list the pre-funded warrants on Nasdaq or any other national securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants will be limited. See “Description of Pre-Funded Warrants.”

Risk factors

Investing in our common shares and pre-funded warrants involves a high degree of risk. You should carefully consider the risks described below and discussed under the section captioned “Risk Factors” contained in the Preliminary Prospectus Supplement, the accompanying prospectus, our annual report on Form 10-K for the year ended December 31, 2025, which is incorporated by reference in the Preliminary Prospectus Supplement, as well as all other information included in the Preliminary Prospectus Supplement, the accompanying prospectus and in our other filings with the SEC incorporated by reference into the Preliminary Prospectus Supplement before you decide to purchase common shares or pre-funded warrants. If any of the following risks actually occurs, our business, financial condition, operating results, prospects and ability to accomplish our strategic objectives could be materially harmed. As a result, the trading price of our common shares could decline and you could lose all or part of your investment. Our Risk Factors are not guarantees that no such conditions exist as of the date of this prospectus supplement and should not be interpreted as an affirmative statement that such risks or conditions have not materialized, in whole or in part. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations and the market price of our common shares.

New investors in our common shares or pre-funded warrants will experience immediate and substantial dilution after this offering.

Since the public offering price for our common shares and pre-funded warrants in this offering is substantially higher than the net tangible book value per common share outstanding prior to this offering, you will suffer immediate and substantial dilution in the net tangible book value of the common shares or pre-funded warrants you purchase in this offering. If the underwriters exercise their option to purchase additional common shares, you will experience additional dilution. See the section entitled "Dilution" below for a more detailed discussion of the dilution you will incur if you purchase shares in this offering.

The issuance of additional common shares could be dilutive to shareholders if they do not invest in future offerings. In addition, we have a significant number of options to purchase our common shares outstanding. If these options are exercised, you may incur further dilution. Moreover, to the extent that we issue additional options to purchase, or securities convertible into or exchangeable for, common shares in the future and those options or other securities are exercised, converted or exchanged, shareholders may experience further dilution.

There is no public market for the pre-funded warrants being offered in this offering.

There is no public trading market for the pre-funded warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to list the pre-funded warrants on Nasdaq or any other national securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants will be limited.

Holders of the pre-funded warrants will have no rights as shareholders until such holders exercise their pre-funded warrants and acquire our common shares.

Until holders of the pre-funded warrants exercise their pre-funded warrants and acquire our common shares, such holders will have no rights with respect to the common shares underlying such pre-funded warrants.

We will not receive any meaningful amount of additional funds upon the exercise of the pre-funded warrants.

Each pre-funded warrant will be exercisable until it is fully exercised and by means of payment of the nominal cash purchase price upon exercise or by means of a "cashless exercise" according to a formula set forth in the pre-funded warrant. Accordingly, we will not receive any meaningful additional funds upon the exercise of the pre-funded warrants.

Significant holders or beneficial owners of our common shares may not be permitted to exercise the pre-funded warrants that they hold.

A holder of the pre-funded warrants will not be entitled to exercise any portion of any pre-funded warrant that, upon giving effect to such exercise, would cause the aggregate number of our common shares beneficially owned by such holder (together with its affiliates and its Attribution Parties (as defined below)) to exceed 4.99% of the number of our common shares outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants and subject to such holder's rights under the pre-funded warrants to increase or decrease such percentage to any other percentage not in excess of 19.99% upon at least 61 days' prior notice from the holder to us. As a result, you may not be able to exercise your pre-funded warrants for our common share at a time when it would be financially beneficial for you to do so. In such a circumstance, you could seek to sell your pre-funded warrants to realize value, but you may be unable to do so in the absence of an established trading market.

If we do not maintain a current and effective registration statement relating to the common shares issuable upon exercise of the pre-funded warrants, holders will only be able to exercise such pre-funded warrants on a “cashless basis.”

If we do not maintain a current and effective registration statement relating to the common shares issuable upon exercise of the pre-funded warrants at the time that holders wish to exercise such pre-funded warrants, they will only be able to exercise them on a “cashless basis” provided that an exemption from registration is available. As a result, the number of common shares that holders will receive upon exercise of the pre-funded warrants will be fewer than it would have been had such holder exercised his warrant for cash, and holders may be limited in their ability to immediately sell shares upon exercise subject to volume or other securities law limitations. Further, if an exemption from registration is not available, holders would not be able to exercise on a cashless basis and would only be able to exercise their pre-funded warrants for cash if a current and effective registration statement relating to the common shares issuable upon exercise of the pre-funded warrants is available.

Use of proceeds

We estimate that the net proceeds to us from this offering will be approximately \$ million, or approximately \$ if the underwriters exercise in full their option to purchase additional common shares, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We will receive nominal proceeds, if any, from the exercise of the pre-funded warrants.

We currently expect to use the net proceeds from this offering, together with our existing cash and cash equivalents and marketable securities, as follows:

- to progress our clinical development programs;
- to fund pre-commercial and commercial activities;
- to fund our discovery and pre-clinical activities; and
- for other general corporate purposes.

We expect that our cash, cash equivalents and marketable securities as of December 31, 2025, combined with \$130.0 million of net proceeds raised under our “at-the-market” program under the Sales Agreement since December 31, 2025, will be sufficient to fund operations into the second half of 2027.

Additionally, we may use a portion of the net proceeds to us from this offering to expand our business by in-licensing or acquiring, as the case may be, commercial products, product candidates, technologies, compounds, other assets or complementary businesses, using cash or common shares. However, we have no current commitments or obligations to complete any such transactions.

We have not specifically identified the precise amounts we will spend on particular areas or the timing of these expenditures. The amounts actually expended for each purpose may vary significantly depending upon numerous factors, including the amount and timing of the proceeds from the sale of common shares offered by this prospectus supplement, the progress of our clinical trials, pre-commercialization and commercialization efforts and other product development activities. In addition, expenditures may also depend on the establishment of new collaborative arrangements with other partners, the availability of other financing and other factors. Pending these uses, we plan to invest these net proceeds in treasury bills, corporate bonds, commercial paper, term deposits, bankers acceptances or deposit-based investments including, but not limited to, interest savings accounts. The goal with respect to the investment of these net proceeds is capital preservation and liquidity so that such funds are readily available to fund our operations.

We anticipate that we will be required to raise substantial additional capital to continue to fund the clinical development of our product candidates. If we are able to gain marketing approval for product candidates that we develop, we will require significant additional amounts of capital in order to launch and commercialize such product candidates to the extent that such launch and commercialization are not the responsibility of a collaborator. We expect to finance our future cash needs through public or private equity offerings, debt financings, royalty-based financing, collaborations, licensing arrangements or other sources, or any combination of the foregoing.

Description of pre-funded warrants

The following is a summary of certain terms and conditions of the pre-funded warrants being offered in this offering. The following description is subject in all respects to the provisions contained in the pre-funded warrants.

Form

The pre-funded warrants will be issued as individual warrant agreements to the purchasers. The form of pre-funded warrant will be provided to the pre-funded warrant purchasers in this offering and will be filed as an exhibit to a Current Report on Form 8-K that we expect to file with the SEC.

Term

The pre-funded warrants will expire on the date the warrant is exercised in full.

Exercisability

The pre-funded warrants are exercisable at any time after their original issuance. The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and by payment in full of the exercise price in immediately available funds for the number of common shares purchased upon such exercise. As an alternative to payment in immediately available funds, the holder may, in its sole discretion, elect to exercise the pre-funded warrant through a cashless exercise, in which the holder would receive upon such exercise the net number of common shares determined according to the formula set forth in the pre-funded warrant. No fractional common shares will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the last closing trading price of our common shares on the exercise date.

Exercise Limitations

We may not effect the exercise of any portion of any pre-funded warrant, and a holder of any pre-funded warrant will not have the right to exercise any portion of any pre-funded warrant, and any such exercise shall be null and void and cancelled ab initio and treated as if the exercise had not been made, to the extent that immediately prior to or following such exercise, the holder, together with the Attribution Parties, collectively beneficially owns or would beneficially own as determined in accordance with Section 13(d) of the Exchange Act and the rules promulgated thereunder, in excess of 4.99% (the "Maximum Percentage") of the Common Shares that would be issued and outstanding following such exercise. However, any holder of a pre-funded warrant may increase or decrease such percentage to any other percentage not in excess of 19.99% upon at least 61 days' prior notice from the holder to us.

"Attribution Parties" means, collectively, the following persons and entities: (i) any direct or indirect affiliates of the holder, (ii) any person acting or who could be deemed to be acting as a Section 13(d) "group" together with the holder or any Attribution Parties and (iii) any other Persons whose beneficial ownership of the our Common Shares would or could be aggregated with the holder's and/or any other Attribution Parties for purposes of Section 13(d) or Section 16 of the Exchange Act. For clarity, the purpose of the foregoing is to subject collectively the holder and all other Attribution Parties to the Maximum Percentage.

Exercise Price

The exercise price of our common shares purchasable upon the exercise of the pre-funded warrants is \$0.0001 per share. The exercise price of the pre-funded warrants and the number of common shares issuable upon exercise of the pre-funded warrants is subject to appropriate adjustment in the event of certain share dividends and distributions, share splits, share combinations, reclassifications or similar events affecting our common shares, as well as upon any distribution of assets, including cash, shares or other property, to our shareholders.

Transferability

Subject to the restrictions on transfer set forth in the pre-funded warrants and applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent.

Exchange Listing

There is no established trading market for the pre-funded warrants, and we do not expect a market to develop. We do not intend to apply for the listing of the pre-funded warrants on Nasdaq, any other national securities exchange or any other nationally recognized trading system.

Fundamental Transactions

Upon the consummation of a fundamental transaction (as described in the pre-funded warrants, and generally including any reorganization, recapitalization or reclassification of our common shares, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common shares, or any person or group becoming the beneficial owner of 50% of the voting power of our outstanding common shares), the holders of the pre-funded warrants will be entitled to receive, upon exercise of the pre-funded warrants, the kind and amount of securities, cash or other property that such holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction, without regard to any limitations on exercise contained in the pre-funded warrants (the "Alternate Consideration"). We will not effect any fundamental transaction in which we are not the surviving entity or the Alternate Consideration includes securities of another person unless (i) the alternate consideration is solely cash and we provide for the simultaneous "cashless exercise" of any pre-funded warrant or (ii) prior to or simultaneously with the consummation of a fundamental transaction, any successor to us, surviving entity or person (including any purchaser of our assets) will assume the obligation to deliver to the holder such Alternate Consideration as the holder may be entitled to receive and the other obligations under any pre-funded warrant.

Warrant Agent

We will initially serve as the warrant agent under the pre-funded warrants.

No Rights as a Shareholder

Except by virtue of such holder's ownership of our common shares, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our common shares, including any voting rights, until such holder exercises the pre-funded warrant.

Material income tax considerations

U.S. federal income tax information for U.S. Holders

Although it is not entirely free from doubt, a pre-funded warrant is generally expected to be treated as a common share for U.S. federal income tax purposes and a holder of a pre-funded warrant should generally be taxed in the same manner as a holder of common shares, as described in the Preliminary Prospectus Supplement. Accordingly, no gain or loss should be recognized upon the exercise of a pre-funded warrant (other than with respect to cash paid in lieu of a fractional share and except in the case of a cashless exercise, the treatment of which for U.S. federal income tax purposes is not clear) and, upon exercise, the holding period of a pre-funded warrant should carry over to the common share received. Similarly, the tax basis of a pre-funded warrant should carry over to the common share received upon exercise, increased by the exercise price of \$0.0001 per share.

Our characterization is not binding on the U.S. Internal Revenue Service, or IRS, and the IRS may treat our pre-funded warrants as warrants to acquire our common stock. In that case, the amount and character of your gain with respect to an investment in our pre-funded warrants could be materially different than the discussion described above. Each holder of pre-funded warrants should consult his, her or its own tax advisor regarding the risks associated with the acquisition of pre-funded warrants pursuant to this offering (including potential alternative characterizations).

Certain adjustments to the pre-funded warrants

A holder of pre-funded warrants may, in some circumstances, be deemed to have received a distribution subject to U.S. federal income tax as a result of an adjustment or the non-occurrence of an adjustment to the number of shares of common stock issuable upon exercise of such pre-funded warrants. Such a deemed distribution could arise if, for example, an adjustment to the number of shares issuable upon exercise (as discussed in the section of this prospectus supplement captioned “Description of pre-funded warrants”) increases the holder’s proportionate interest in our assets or earnings and profits as a result of a distribution of cash to the holders of shares of our common stock which is taxable to such holders as a distribution. Such constructive distribution would be subject to tax in the same manner as if such holder received a cash distribution from us equal to the fair market value of such increased interest, generally consistent with the treatment described in the Preliminary Prospectus Supplement under “Material income tax considerations—U.S. Federal income tax information for U.S. holders—Taxation of dividends and other distributions on our common shares”. In the event such distribution is out of current or accumulated earnings and profit, as determined under U.S. federal income tax principles, any resulting withholding tax attributable to the applicable holder may be collected from other amounts payable or distributable to such holder. Each holder is urged to consult its tax advisor regarding the U.S. federal income tax considerations of constructive distributions, if any, on the pre-funded warrants, and the interaction of any adjustments and the passive foreign investment company, or PFIC, rules.

Passive foreign investment company consequences

If we are a PFIC at any time when a U.S. Holder holds our pre-funded warrants, we generally expect such U.S. Holder to be taxed in the same manner as a holder of common shares, as described in the Preliminary Prospectus Supplement under “Material income tax considerations—U.S. Federal income tax information for U.S. holders—Passive Foreign Investment Company consequences”. However, while we generally expect U.S. Holders to be eligible to make a “qualified electing fund”, or QEF, election in a timely filed tax return for the first taxable year in which the U.S. Holder held either our common shares or pre-funded warrants that includes the close of our taxable year for which we met the PFIC gross income test or asset test, subject to the conditions described in the Preliminary Prospectus Supplement, we do not expect the pre-funded warrants to qualify as marketable stock and therefore we do not expect the mark-to-market election described in the Preliminary Prospectus Supplement to be available to holders of our pre-funded warrants.

Principal Canadian Federal Income Tax Considerations

The following is, as of the date prior to the date hereof, a general summary of the principal Canadian federal income tax consequences under the Income Tax Act (Canada), or the Canadian Tax Act, and the regulations thereunder, or the Canadian Tax Regulations, generally applicable to a holder, or a Holder, who acquires our common shares (including on exercise of a pre-funded warrant), or the common shares, or pre-funded warrants pursuant to the offering.

This summary applies only to a Holder who, for the purposes of the Canadian Tax Act, acquires the common shares or pre-funded warrants as beneficial owner and who, at all relevant times, for purposes of the Canadian Tax Act, deals at arm’s length with us and the underwriters, is not affiliated with us or any of the underwriters, and will acquire and hold such common shares or pre-funded warrants as capital property. Generally, the common shares and pre-funded warrants will be considered to be capital property to a Holder provided that the Holder does not use or hold (and will not use or hold) such securities in the course of carrying on a business of trading or dealing in securities and such Holder has not acquired (and will not acquire) such securities in one or more transactions considered to be an adventure or concern in the nature of trade.

This summary is not applicable to: (a) a Holder that is a “financial institution,” as defined in the Canadian Tax Act for purposes of the mark-to-market rules; (b) a Holder, an interest in which is or would be a “tax shelter investment” as defined in the Canadian Tax Act; (c) a Holder that is a “specified financial institution” as defined in the Canadian Tax Act; (d) a Holder that has made a functional currency reporting election under the Canadian Tax Act; (e) a Holder that is exempt from tax under the Canadian Tax Act; (f) a Holder that, with respect to the common shares or pre-funded warrants, has or that has entered into a “synthetic disposition arrangement”, a “synthetic equity arrangement” or a “derivative forward agreement” as those terms are defined in the Canadian Tax Act, or (g) a Holder that receives dividends on the common shares under or as part of a “dividend rental arrangement”, as defined in the Canadian Tax Act. Such Holders should consult their own tax advisors with respect to an investment in the common shares or pre-funded warrants.

Additional considerations, not discussed herein, may be applicable to a Holder that is a corporation resident in Canada for purposes of the Canadian Tax Act that is or becomes (or does not deal at arm’s length for purposes of the Canadian Tax Act with a corporation resident in Canada that is or becomes) as part of a transaction or event or series of transactions or events that includes the acquisition of the common shares controlled by a non-resident person (or a group of non-resident persons not dealing with each other at arm’s length) for purposes of the “foreign affiliate dumping” rules in section 212.3 of the Canadian Tax Act. Such Holders should consult their tax advisors with respect to the consequences of acquiring common shares or pre-funded warrants.

This summary does not address the deductibility of interest by a holder of common shares or pre-funded warrants that has borrowed money or otherwise incurred debt in connection with the acquisition of common shares or pre-funded warrants.

This summary is based upon the facts set out in the prospectus and the prospectus supplement, the provisions of the Canadian Tax Act and the Canadian Tax Regulations in force as of the date prior to the date hereof, counsel’s understanding of the administrative policies and assessing practices of the Canada Revenue Agency, or the CRA, published in writing by the CRA and publicly available prior to the date hereof and all specific proposals to amend the Canadian Tax Act and the Canadian Tax Regulations that have been publicly and officially announced by or on behalf of the Minister of Finance (Canada) prior to the date hereof, or the Canadian Tax Proposals. This summary assumes that the Canadian Tax Proposals will be enacted substantially as proposed; however, no assurance can be given that the Canadian Tax Proposals will be enacted as proposed or at all. This summary does not otherwise take into account or anticipate any changes in law, or the CRA’s administrative policies or assessing practices, whether by way of legislative, governmental or judicial decision or action, nor does it take into account other federal or any provincial, territorial or foreign tax legislation or considerations, which may differ significantly from those discussed herein.

This summary is not exhaustive of all possible Canadian federal income tax considerations of acquiring common shares or pre-funded warrants. The summary is of a general nature only and is not, and is not intended to be, and should not be construed to be, legal, business, or tax advice to any prospective Holder and no representations with respect to the tax consequences to any prospective Holder are made. The tax consequences of acquiring, holding, and disposing of the common shares or pre-funded warrants will vary according to the Holder’s particular circumstances. Prospective Holders should consult their own tax advisors as to the Canadian federal tax consequences, and the tax consequences of any other jurisdiction, applicable to them having regard to their own particular circumstances.

Currency Conversion

Generally, for the purposes of the Canadian Tax Act, all amounts calculated in a currency other than the Canadian dollar relating to the acquisition, holding and disposition of the common shares or pre-funded warrants must be converted into Canadian dollars based on the exchange rates determined in accordance with the Canadian Tax Act. The amount of dividends to be included in income, adjusted cost base and proceeds of disposition realized by a Holder, may be affected by fluctuations in the relevant exchange rates.

Exercise of Pre-funded Warrants

The exercise of a pre-funded warrant to acquire a common share will be deemed not to constitute a disposition of property for purposes of the Canadian Tax Act. As a result, no gain or loss will be realized by a Holder upon the exercise of a pre-funded warrant to acquire a common share. When a pre-funded warrant is exercised, the Holder's adjusted cost base of the common share acquired thereby will be equal to the aggregate of the Holder's adjusted cost base of such pre-funded warrant and the exercise price paid for the common share. The Holder's adjusted cost base of a common share so acquired will be determined by averaging the adjusted cost base of the common share with the adjusted cost base to the Holder of all common shares owned by the Holder as capital property (if any) immediately prior to such acquisition.

Expiry of Pre-Funded Warrants

The pre-funded warrants will not expire. However, if the pre-funded warrants do have an expiry date, in the event of the expiry of an unexercised pre-funded warrant, the Holder will realize a capital loss equal to the Holder's adjusted cost base of such pre-funded warrant. The tax treatment of a capital loss is discussed in greater detail below under the subheading "Residents of Canada - Taxation of Capital Gains and Capital Losses" and "Non-Residents of Canada - Disposition of the Common Shares and Pre-funded Warrants".

Residents of Canada

The following discussion applies to Holders who, for the purposes of the Canadian Tax Act and any applicable income tax treaty or convention, and at all relevant times, are (or are deemed to be) residents of Canada, or Canadian Resident Holders.

Certain Canadian Resident Holders whose common shares might not otherwise qualify as capital property may be entitled to make an irrevocable election permitted by subsection 39(4) of the Canadian Tax Act to deem the common shares, and every other "Canadian security" (as defined in the Canadian Tax Act), held by such Canadian Resident Holder, in the taxation year of the election and each subsequent taxation year to be capital property. This election does not apply to pre-funded warrants. Canadian Resident Holders should consult their own tax advisors regarding this election.

Dividends on the Common Shares

Dividends received or deemed to be received on the common shares will be included in computing a Canadian Resident Holder's income. In the case of a Canadian Resident Holder that is an individual (other than certain trusts), such dividends will be subject to the gross-up and dividend tax credit rules normally applicable under the Canadian Tax Act in respect of "taxable dividends" received from a "taxable Canadian corporation" (each as defined in the Canadian Tax Act), including the enhanced gross-up and dividend tax credit for "eligible dividends" properly designated as such by us. There may be limitations on our ability to designate any particular dividend as an "eligible dividend" and we have made no commitments in this regard.

Dividends received or deemed to be received on the common shares by a Canadian Resident Holder that is a corporation must be included in computing its income but generally will be deductible in computing its taxable income for the taxation year, subject to all restrictions under the Canadian Tax Act. In certain circumstances, subsection 55(2) of the Canadian Tax Act will treat a taxable dividend received or deemed to be received by a Canadian Resident Holder that is a corporation as proceeds of disposition or a capital gain. Canadian Resident Holders that are corporations should consult their own tax advisors having regard to their own circumstances.

A Canadian Resident Holder that is a “private corporation” or a “subject corporation” (as such terms are defined in the Canadian Tax Act), may be liable to pay a tax (refundable in certain circumstances) under Part IV of the Canadian Tax Act on dividends received or deemed to be received on the common shares to the extent such dividends are deductible in computing taxable income for the taxation year. A “subject corporation” is generally a corporation (other than a private corporation) resident in Canada and controlled directly or indirectly by or for the benefit of an individual (other than a trust) or a related group of individuals (other than trusts).

Dispositions of the Common Shares and Pre-funded Warrants

A disposition, or a deemed disposition, of a common share (other than to us unless purchased by us in the open market in the manner in which shares are normally purchased by any member of the public in the open market) or a pre-funded warrant (other than on exercise thereof) by a Canadian Resident Holder will generally give rise to a capital gain (or a capital loss) equal to the amount by which the proceeds of disposition of the common share or pre-funded warrant, as the case may be, net of any reasonable costs of disposition, exceed (or are less than) the adjusted cost base of the common share or pre-funded warrant to the Canadian Resident Holder. The adjusted cost base to a Canadian Resident Holder of the common share or pre-funded warrant will be determined at any time by averaging the cost of such common share or pre-funded warrant, as the case may be, with the adjusted cost base (determined immediately before the acquisition of the relevant security) of any other common shares or pre-funded warrants, as the case may be, which are owned by the Canadian Resident Holder as capital property at that time. Such capital gain (or capital loss) will be subject to the treatment described below under “Taxation of Capital Gains and Capital Losses.”

Taxation of Capital Gains and Capital Losses

Generally, one-half of any capital gain, or a taxable capital gain, realized by a Canadian Resident Holder for a taxation year must be included in the Canadian Resident Holder’s income in the year. Subject to and in accordance with the provisions of the Canadian Tax Act, a Canadian Resident Holder is required to deduct one-half of any capital loss, or an allowable capital loss, realized in the year from taxable capital gains realized in that year. Allowable capital losses in excess of taxable capital gains may be carried back and deducted in any of the three preceding taxation years, or carried forward and deducted in any subsequent year, from net taxable capital gains realized in such years (but not against other income) to the extent and under the circumstances described in the Canadian Tax Act. If the Canadian Resident Holder is a corporation, any such capital loss realized on the sale of a common share may in certain circumstances be reduced by the amount of any dividends which have been previously received or which are deemed to have been received by the Canadian Resident Holder on the common share. Similar rules may apply where a corporation is a member of a partnership or a beneficiary of a trust that owns common shares, directly or indirectly through a partnership or a trust.

Additional Refundable Tax

A Canadian Resident Holder that is, throughout the relevant taxation year, a “Canadian-controlled private corporation” (as defined in the Canadian Tax Act) or that is, at any time in the relevant taxation year, a “substantive CCPC” (as defined in the Canadian Tax Act) for the year, including any taxable capital gains and dividends or deemed dividends that are not deductible in computing the Canadian Resident Holder’s taxable income. Canadian Resident Holders to whom these rules may be relevant should consult their own tax advisors.

Minimum Tax

Capital gains realized and taxable dividends received (or deemed to be received) by a Canadian Resident Holder who is an individual (including certain trusts) may give rise to minimum tax under the Canadian Tax Act. Canadian Resident Holders should consult their own advisors with respect to the application of minimum tax.

Non-Residents of Canada

The following discussion applies to a Holder who, for the purposes of the Canadian Tax Act and any applicable income tax treaty or convention, and at all relevant times, (i) is not, and is not deemed to be, resident in Canada; and (ii) does not use or hold (and will not be deemed to use or hold) the common shares or pre-funded warrants in the course of carrying on a business in Canada, or otherwise in connection with a business (including an adventure or concern in the nature of trade) carried on in Canada, or Non-Resident of Canada Holder. The term U.S. Holder, for the purposes of this summary, means a Non-Resident of Canada Holder who, for purposes of the Canada-United States Tax Convention (1980), as amended, or the Convention, is at all relevant times a resident of the United States and is a “qualifying person” (within the meaning of the Convention) eligible for the full benefits of the Convention. In some circumstances, persons deriving amounts through fiscally transparent entities (including limited liability companies) may be entitled to benefits under the Convention. U.S. Holders are urged to consult their own tax advisors to determine their entitlement to benefits under the Convention and related compliance requirements based on their particular circumstances.

Special rules, which are not discussed in this summary, may apply to a Non-Resident of Canada Holder that is an insurer that carries on an insurance business in Canada and elsewhere or is an “authorized foreign bank” (as defined in the Canadian Tax Act). Such Holders should consult their own tax advisors.

Dividends on the Common Shares

Dividends paid or credited or deemed to be paid or credited to a Non-Resident of Canada Holder by us on any common shares will be subject to Canadian withholding tax at the rate of 25% on the gross amount of the dividend unless such rate is reduced by the terms of an applicable income tax treaty or convention between Canada and the country in which the Non-Resident of Canada Holder is resident. Such rate is generally reduced under the Convention to 15% if the beneficial owner of such dividend is a U.S. Holder. The rate of withholding tax is generally further reduced to 5% if the beneficial owner of such dividend is a U.S. Holder that is a company that owns, directly or indirectly, at least 10% of our voting stock. The Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting, or the MLI, of which Canada is a signatory, affects many of Canada’s tax treaties (but not the Convention), including the ability to claim benefits thereunder. Non-Resident of Canada Holders should consult their own tax advisors to determine their entitlement to relief under an applicable income tax treaty or convention.

Dispositions of the Common Shares and Pre-funded Warrants

A Non-Resident of Canada Holder generally will not be subject to tax under the Canadian Tax Act in respect of any capital gain realized by such Non-Resident of Canada Holder on a disposition, or deemed disposition, of the common shares or pre-funded warrants, nor will capital losses arising therefrom be recognized under the Canadian Tax Act, unless the common shares or pre-funded warrants constitute “taxable Canadian property,” as defined in the Canadian Tax Act, of the Non-Resident of Canada Holder at the time of disposition and the Non-Resident of Canada Holder is not entitled to an exemption under an applicable income tax treaty or convention between Canada and the country in which the Non-Resident of Canada Holder is resident. As long as the common shares are listed on a “designated stock exchange” as defined in the Canadian Tax Act (which currently includes Nasdaq) at the time of disposition or deemed disposition, the common shares and pre-funded warrants generally will not constitute taxable Canadian property of a Non-Resident of Canada Holder at that time, unless at any time during the 60-month period immediately preceding the disposition or deemed disposition the following two conditions are met concurrently: (a) one or any combination of (i) the Non-Resident of Canada Holder, (ii) persons not dealing at arm’s length with such Non-Resident of Canada Holder, and (iii) partnerships in which the

Non-Resident of Canada Holder or a person described in (ii) holds a membership interest directly or indirectly through one or more partnerships, owned 25% or more of the issued shares of any class or series of our capital stock; and (b) more than 50% of the fair market value of the common shares was derived, directly or indirectly, from one or a combination of real or immovable property situated in Canada, "Canadian resource properties," as such term is defined in the Canadian Tax Act, "timber resource properties," as such term is defined in the Canadian Tax Act, or options in, interests in, or for civil law rights in, any such properties whether or not the property exists. Notwithstanding the foregoing, a common share or pre-funded warrant may also be deemed to be taxable Canadian property to a Non-Resident of Canada Holder in certain other circumstances under the Canadian Tax Act.

If the common shares or pre-funded warrants are considered taxable Canadian property to a Non-Resident of Canada Holder, an applicable income tax treaty or convention may in certain circumstances exempt that Non-Resident of Canada Holder from tax under the Canadian Tax Act in respect of the disposition or deemed disposition of the common shares or pre-funded warrants. Non-Resident of Canada Holders whose common shares or pre-funded warrants are, or may be, taxable Canadian property pursuant to certain circumstances prescribed in the Canadian Tax Act should consult their own tax advisors for advice having regard to their particular circumstances.

In the event that a common share or pre-funded warrant constitutes taxable Canadian property of a Non-Resident of Canada Holder and any capital gain that would be realized on the disposition or deemed disposition thereof is not exempt from tax under the Canadian Tax Act pursuant to an applicable income tax convention or treaty (including as a result of the application of the MLI), the income tax consequences discussed under "Residents of Canada - Dispositions of the Common Shares and Pre-funded Warrants" and "Residents of Canada - Taxation of Capital Gains and Capital Losses" will generally apply to the Non-Resident of Canada Holder.

Non-Resident of Canada Holders whose common shares or pre-funded warrants may constitute "taxable Canadian property" should consult their own tax advisors regarding the tax and compliance considerations that may be relevant to them.

Eligibility for Investment

Subject to the provisions of any particular plan and based on the provisions of the Canadian Tax Act and the Canadian Tax Regulations in force as of the date prior to the date hereof, the common shares and pre-funded warrants, if issued on the date hereof, would be "qualified investments" under the Canadian Tax Act for trusts governed by a "registered retirement savings plan", "registered retirement income fund", "tax-free savings account", "first home savings account", "registered education savings plan", "registered disability savings plan" (collectively referred to as Registered Plans), and a "deferred profit sharing plan", provided that at the time of acquisition (a) the common shares are listed on a "designated stock exchange" (as defined in the Canadian Tax Act) (which currently includes Nasdaq) or we are otherwise a "public corporation" (other than a "mortgage investment corporation"), each as defined in the Canadian Tax Act, and (b) in the case of a pre-funded warrant, we are not a "connected person" (as defined in the regulations to the Canadian Tax Act) under the Registered Plan. A "connected person" under a Registered Plan is defined in the regulations to the Canadian Tax Act as a person who is an annuitant, a beneficiary, an employer or a subscriber under, or a holder of, the Registered Plan and any person who does not deal at arm's length with that person.

Notwithstanding the foregoing, if the common share or pre-funded warrant is a "prohibited investment" within the meaning of the Canadian Tax Act for the Registered Plan, the holder, annuitant or subscriber of the Registered Plan, as the case may be, will be subject to a penalty tax as set out in the Canadian Tax Act. The common shares and pre-funded warrants will not generally be a "prohibited investment" for a Registered Plan if the holder, annuitant or subscriber, as the case may be, (i) deals at arm's length with us for the purposes of the Canadian Tax Act, and (ii) does not have a "significant interest" (as defined in the Canadian Tax Act for the purposes of the prohibited investment rules) in us. In addition, the common shares will not be a "prohibited investment" if such shares are "excluded property" (as defined in the Canadian Tax Act for the purposes of the prohibited investment rules) for a Registered Plan.

Prospective purchasers of common shares or pre-funded warrants who intend to hold such securities in a Registered Plan are urged to consult their own tax advisors to ensure the common shares or pre-funded warrants, as applicable, would not be a prohibited investment, including whether the common shares would be excluded property, in their particular circumstances.

Underwriting

The underwriters will purchase the pre-funded warrants pursuant to the underwriting agreement described in the Preliminary Prospectus Supplement on terms generally consistent with those applicable to the common shares being sold in the offering. The per share underwriting discounts and commissions for the pre-funded warrants will be on equal terms to the per share underwriting discounts and commissions on the common shares sold in the offering. The underwriters have not been engaged to act as warrant agent for the pre-funded warrants or to act as underwriter or agent or otherwise participate in the issuance of the common shares upon the exercise of the pre-funded warrants.

General

Additional conforming changes are hereby made to the Preliminary Prospectus Supplement to reflect the changes described in this free writing prospectus. All terms of the Preliminary Prospectus Supplement applicable to our common shares will be applicable to the shares underlying the pre-funded warrants upon issuance.

Xenon Pharmaceuticals Inc. has filed a registration statement (including the Preliminary Prospectus Supplement and the accompanying prospectus) with the SEC for the offering to which this communication relates. Before you invest, you should read the Preliminary Prospectus Supplement and the accompanying prospectus and the other documents Xenon Pharmaceuticals Inc. has filed or will file with the SEC for more complete information about Xenon Pharmaceuticals Inc. and the offering described in the Preliminary Prospectus Supplement. You may get these documents for free by visiting EDGAR on the SEC's website at www.sec.gov. Alternatively, copies of the Preliminary Prospectus Supplement and the accompanying prospectus may be obtained by contacting J.P. Morgan Securities LLC; c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717 or by email at prospectus-eq_fi@jpmchase.com and postsalemanualrequests@broadridge.com; Jefferies LLC, Attention: Equity Syndicate Prospectus Department, 520 Madison Avenue New York, NY 10022, by telephone at (877) 821-7388 or by email at Prospectus_Department@Jefferies.com; TD Securities (USA) LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717 or by email at TDManualrequest@broadridge.com; Stifel, Nicolaus & Company, Incorporated, Attention: Syndicate, One Montgomery Street, Suite 3700, San Francisco, CA 94104, telephone: (415) 364-2720 or by emailing syndprospectus@stifel.com; RBC Capital Markets, LLC, Attention: Equity Capital Markets, 200 Vesey Street, New York, NY 10281, by telephone at (877) 822-4089, or by email at equityprospectus@rbccm.com; or William Blair & Company, L.L.C., Attention: Prospectus Department, 150 North Riverside Plaza, Chicago, Illinois 60606, by telephone at (800) 621-0687 or by email at prospectus@williamblair.com.