As filed with the Securities and Exchange Commission on November 9, 2026

Registration Statement No. 333-

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

FORM S-8
REGISTRATION STATEMENT
Under
THE SECURITIES ACT OF 1933

XENON PHARMACEUTICALS INC.
(Exact name of registrant as specified in its charter)

Canada	**98-0661854**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

3650 Gilmore Way
Burnaby, British Columbia V5G 4W8
Canada
(Address of principal executive offices, including zip code)

Amended and Restated 2025 Inducement Equity Incentive Plan
(Full title of the plan)

Thomas P. Kelly
Chief Financial Officer
Xenon Pharmaceuticals Inc.
3650 Gilmore Way
Burnaby, British Columbia V5G 4W8
Canada
(Name and address of agent for service)

(604) 484-3300
(Telephone number, including area code, of agent for service)

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	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

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. ☐

TABLE OF CONTENTS

	Page
Item 3. Incorporation of Documents by Reference	1
Item 8. Exhibits	2
Signatures	

EXPLANATORY NOTE

REGISTRATION OF ADDITIONAL SHARES PURSUANT TO GENERAL INSTRUCTION E

This registration statement on Form S-8 (the "Registration Statement") registers an additional 300,000 common shares, without par value, of Xenon Pharmaceuticals Inc. (the "Registrant") to be issued pursuant to the Registrant's Amended and Restated 2025 Inducement Equity Incentive Plan. Accordingly, the contents of (i) the Registration Statement on Form S-8 filed by the Registrant with the Securities and Exchange Commission (the "Commission") on February 27, 2025 (File No. 333-285382); (ii) the Registration Statement on Form S-8 filed by the Registrant with the Commission on December 1, 2025 (File No. 333-291868); and (iii) the Registration Statement on Form S-8 filed by the Registrant with the Commission on April 13, 2026 (File No. 333-295020) (together with (i) and (ii), the "Previous Form S-8"), including periodic and other reports that the Registrant filed after the filing of the Previous Form S-8 to maintain current information about the Registrant, are incorporated herein by reference into this Registration Statement pursuant to General Instruction E to Form S-8.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference

The following documents previously filed with the U.S. Securities and Exchange Commission (the "**Commission**") are hereby incorporated by reference:

(1) The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2025, filed with the Commission on February 26, 2026;

(2) All other reports filed with the Commission pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "**Act**"), since the end of the fiscal year covered by the Registrant's Annual Report referred to in (1) above; and

(3) The description of the Registrant's common shares contained in the Registration Statement on Form 8-A12B (File No. 001-36687) filed with the Commission on October 10, 2014, pursuant to Section 12(b) of the Act, as updated by any amendment or report filed for the purpose of updating such description, including the description of the Registrant's Common Shares contained in Exhibit 4.3 to its Annual Report on Form 10-K for the fiscal year ended December 31, 2025, filed on February 26, 2026.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Act, prior to the filing of a post-effective amendment which indicates that all securities registered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be part hereof from the date of filing of such documents; provided, however, that documents or information deemed to have been furnished and not filed in accordance with the rules of the Commission shall not be deemed incorporated by reference into this Registration Statement. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Under no circumstances will any information furnished under items 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

Item 8. Exhibits

Exhibit Number	Description of Document	Incorporated by Reference			
		Form	**File No.**	**Exhibit**	**Filing Date**
4.1	Specimen common share certificate of the Registrant.	S-1/A	333-198666	4.1	10/6/2014
4.2+	Amended and Restated 2025 Inducement Equity Incentive Plan and related form agreements.	10-Q	001-36687	10.1	11/9/2026
5.1	Opinion of Blake, Cassels & Graydon LLP.				
23.1	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.				
23.2	Consent of KPMG LLP, Independent Registered Public Accounting Firm.				
23.3	Consent of Blake, Cassels & Graydon LLP (contained in Exhibit 5.1 hereto).				
24.1	Power of Attorney (contained on signature page hereto).				
107	Filing Fee Table				

+ Indicates management contract or compensatory plan, contract or arrangement.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Needham Heights, Massachusetts, on November 9, 2026.

XENON PHARMACEUTICALS INC.

By: /s/ Thomas P. Kelly
Thomas P. Kelly
Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Ian Mortimer and Thomas P. Kelly as his and 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 or all amendments (including post-effective amendments) to this registration statement on Form S-8, as amended, 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 and about the premises, as fully to all intents and purposes as 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 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, as amended, this registration statement on Form S-8 has been signed by the following persons in the capacities and on the dates indicated.

Name	Title	Date
/s/ Ian Mortimer Ian Mortimer	President, Chief Executive Officer and Director (Principal Executive Officer)	November 9, 2026
/s/ Thomas P. Kelly Thomas P. Kelly	Chief Financial Officer (Principal Financial and Accounting Officer)	November 9, 2026
/s/ Dawn Svoronos Dawn Svoronos	Chair of the Board of Directors	November 9, 2026
/s/ Gillian Cannon Gillian Cannon	Director	November 9, 2026
/s/ Steven Gannon Steven Gannon	Director	November 9, 2026
/s/ Elizabeth Garofalo Elizabeth Garofalo	Director	November 9, 2026
/s/ Justin Gover Justin Gover	Director	November 9, 2026
/s/ Patrick Machado Patrick Machado	Director	November 9, 2026
/s/ Gary Patou Gary Patou	Director	November 9, 2026

Blake, Cassels & Graydon LLP
Barristers & Solicitors
Patent & Trademark Agents
1133 Melville Street
Suite 3500, The Stack
Vancouver, B.C. V6E 4E5 Canada
Tel: 604-631-3300 Fax: 604-631-3309

Exhibit 5.1

November 9, 2026

Reference:191296/1

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

RE: Registration Statement on Form S-8 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-8 (the "**Registration Statement**") to be filed by the Company with the U.S. Securities and Exchange Commission relating to the registration under the Securities Act of 1933, as amended, of an additional 300,000 common shares in the capital of the Company (the "**Shares**") reserved for issuance under the Company's 2025 Inducement Equity Incentive Plan, as amended and restated on November 24, 2025, and further amended April 7, 2026 and November 9, 2026 (the "**Plan**").

In connection with giving this opinion, we have examined the Registration Statement (including exhibits thereto). We have also examined originals, certified or otherwise identified to our satisfaction, of such public and corporate records, certificates, instruments and other documents as we have considered necessary in order to express the opinion set out below. With respect to the accuracy of factual matters material to this opinion, we have relied upon certificates or comparable documents and representations of public officials and of officers and representatives of the Company.

In giving this opinion, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies, certified or otherwise identified to our satisfaction. We have also considered such questions of law as we have deemed relevant and necessary as a basis for the opinion hereinafter expressed.

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

Based and relying upon and subject to the foregoing, we are of the opinion that the Shares, when issued by the Company in accordance with the terms of the Plan and the agreements contemplated by the Plan, will be validly issued, fully paid and non-assessable shares in the capital of the Company.

We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement and further consent to the use of our name wherever appearing in the Registration Statement.

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

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of Xenon Pharmaceuticals Inc. of our report dated February 26, 2026 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in Xenon Pharmaceuticals Inc.'s Annual Report on Form 10-K for the year ended December 31, 2025.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
November 9, 2026

Exhibit 23.2

Consent of Independent Registered Public Accounting Firm

The Board of Directors

Xenon Pharmaceuticals Inc.

We consent to the use of our report dated February 27, 2025, on the consolidated financial statements of Xenon Pharmaceuticals Inc. ("the Entity"), which comprise the consolidated balance sheet as of December 31, 2024, the related consolidated statements of operations and comprehensive loss, shareholders' equity and cash flows for each of the years in the two-year period ended December 31, 2024, and the related notes, which is incorporated by reference in the Registration Statement on Form S-8 dated November 9, 2026 of the Entity.

/s/ KPMG LLP

Chartered Professional Accountants

November 9, 2026
Vancouver, Canada

Calculation of Filing Fee Tables

S-8

Xenon Pharmaceuticals Inc.

Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
1	Equity	Common Shares, no par value per share	Other	300,000	$ 38.18	$ 11,454,000.00	0.000087	$ 996.50
			Total Offering Amounts:			$ 11,454,000.00		$ 996.50
			Total Fee Offsets:					$ 0.00
			Net Fee Due:					$ 996.50

Offering Note

1

Pursuant to Rule 416(a) of the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional common shares of the Registrant that become issuable under the Amended and Restated 2025 Inducement Equity Incentive Plan (the "Amended and Restated 2025 Plan") by reason of any share dividend, share split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant's outstanding common shares.

Estimated in accordance with Rules 457(c) and 457(h) of the Securities Act solely for the purpose of calculating the registration fee on the basis of $38.18 per share, the average of the high and low prices of the Registrant's common shares as reported on The Nasdaq Global Market on November 6, 2026.

Table 2: Fee Offset Claims and Sources ☑Not Applicable

	Registrant or Filer Name	Form or Filing Type	File Number	Initial Filing Date	Filing Date	Fee Offset Claimed	Security Type Associated with Fee Offset Claimed	Security Title Associated with Fee Offset Claimed	Unsold Securities Associated with Fee Offset Claimed	Unsold Aggregate Offering Amount Associated with Fee Offset Claimed	Fee Paid with Fee Offset Source
					Rule 457(p)						
Fee Offset Claims											
Fee Offset Sources											