



3,666,667 Shares of Common Stock
Pre-Funded Warrants to Purchase 1,750,000 Shares of Common Stock
Class B Warrants to Purchase 5,416,667 Shares of Common Stock (or Pre-Funded Warrants)

This free writing prospectus relates only to the offering described below and should be read together with the preliminary prospectus supplement dated November 25, 2019 (the "Preliminary Prospectus Supplement") (including the documents incorporated by reference therein and the base prospectus in respect thereof) relating to the offering of common stock (or Pre-Funded Warrants in lieu of common stock) and Class B warrants to purchase common stock (or, Pre-Funded Warrants). Capitalized terms used but not defined herein shall have the meanings set forth in the Preliminary Prospectus Supplement.

The following information supplements and updates the information contained in the Preliminary Prospectus Supplement.

Issuer:	X4 Pharmaceuticals, Inc.
Ticker/Exchange for common stock:	XFOR/Nasdaq Capital Market
Common stock offered by us:	3,666,667 shares of common stock
Pre-Funded Warrants offered by us:	Pre-Funded Warrants to purchase 1,750,000 shares of common stock. Each Pre-Funded Warrant will have an exercise price per share of common stock equal to \$0.001 per share. The Pre-Funded Warrants are exercisable at any time after their original issuance and will not expire. Under the Pre-Funded Warrants, we may not effect the exercise of any Pre-Funded Warrant, and a holder will not be entitled to exercise any portion of any Pre-Funded Warrant, which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, or (ii) the combined voting power of our securities beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Pre-Funded Warrants. However, any holder may increase or decrease such percentage to any other percentage not in excess of 19.99% (if exceeding such percentage would result in a change of control under Nasdaq Listing Rule 5636(b) or any successor rule) upon at least 61 days' prior notice from the holder to us subject to the terms of the Pre-Funded Warrants. This free writing prospectus and the Preliminary Prospectus Supplement also relate to the offering of the shares of our common stock issuable upon exercise of the Pre-Funded Warrants.

Class B Warrants offered by us:

Class B Warrants to purchase 5,416,667 shares of common stock (or, Pre-Funded Warrants). Each Class B Warrant will have an exercise price per share of common stock equal to \$15.00 and will expire on the date (the "Expiration Date") that is the earlier of (a) the date that is thirty (30) calendar days following the date on which the Company issues a press release regarding topline data from its Phase III clinical trial of mavorixafor for the treatment of WHIM syndrome (or, if such date is not a business day, the following business day) and (b) 60 months from the date of issuance. Each Class B Warrant will be immediately exercisable, provided that the holder will be prohibited, subject to certain exceptions, from exercising the Class B Warrant for shares of our common stock to the extent that immediately prior to or after giving effect to such exercise, the holder, together with its affiliates and other attribution parties, would own more than 9.99% of the total number of shares of our common stock then issued and outstanding, which percentage may be changed at the holders' election to a higher or lower percentage not in excess of 19.99% (if exceeding such percentage would result in a change of control under Nasdaq Listing Rule 5636(b) or any successor rule) upon 61 days' notice to us subject to the terms of the Class B Warrants. If the holder is not permitted to exercise a Class B Warrant for common stock due to the foregoing limitation, then the holder may exercise the Class B Warrant for an equivalent number of Pre-Funded Warrants with an exercise price of \$0.001 in substantially the same form of Pre-Funded Warrant to purchase shares of common stock described above.

If, prior to the Expiration Date, the Company sells shares of common stock or derivative securities convertible into or exercisable for common stock (other than in certain circumstances) in one or more related transactions primarily for the purpose of raising capital (each, a "Subsequent Offering") at an Offering Weighted-Average Price below \$15.00 per share, then the initial Exercise Price of the Class B Warrants will be automatically reset upon exercise to an exercise price (the "Adjusted Exercise Price") that is the lowest Offering Weighted-Average Price per share at which the Company sells common Stock or derivative securities convertible into or exercisable for Common Stock in a Subsequent Offering prior to the exercise date; provided, however, that the Adjusted Exercise Price will not be reduced below \$1.50 per share. The "Offering Weighted-Average Price" shall be calculated as the weighted-average common stock equivalent price of the equity securities sold in such transaction(s) (subject to certain exclusions), and subtracting the value of any warrants or other derivative securities sold in such offering (determining the value of such derivative securities in accordance with GAAP using the Black-Scholes Option Pricing Model and dividing the warrant or derivative value by the number of shares potentially issuable thereunder).

If there is no effective registration statement at the time of exercise, the Class B Warrants may be exercised cashlessly. This free writing prospectus and the Preliminary Prospectus Supplement also relate to the offering of the shares of our common stock (or Pre-Funded Warrants) issuable upon exercise of the Class B Warrants.

Offering price:

\$12.00 per share of common stock and accompanying Class B Warrants (or, for Pre-Funded Warrants in lieu of common stock, \$11.999 per Pre-Funded Warrant and accompanying Class B Warrants).

Proceeds from the offering:

We estimate that the net proceeds from this offering will be approximately \$60.2 million, after deducting underwriting discounts and estimated offering expenses payable by us. This estimate excludes the proceeds, if any, from the exercise of the Warrants sold in this offering.

If all of the Pre-Funded Warrants sold in this offering were to be exercised in cash at an exercise price per share equal to \$0.001 and all of the Class B Warrants sold in this offering were to be exercised in cash at an exercise price per share equal to \$15.00, we would receive exercise proceeds of approximately \$81.3 million. We cannot predict when or if the Warrants will be exercised, at what price the Class B Warrants will be exercised or whether the Class B Warrants will be exercised for shares of common stock or for Pre-Funded Warrants. It is possible that the Class B Warrants may expire and may never be exercised.

Capitalization:

On an as adjusted basis after giving effect to the issuance and sale of our common stock (and Pre-Funded Warrants in lieu of common stock) and accompanying Class B Warrants, after deducting underwriting discounts and estimated offering expenses payable by us, and assuming no exercise of the Warrants offered hereby and that such Warrants are classified and accounted for as stockholders' equity, as of September 30, 2019, our cash and cash equivalents would have been \$136.5 million, total stockholders' equity would have been \$139.4 million and total capitalization would have been \$159.3 million.

Dilution:

After giving effect to our issuance and sale of the common stock (and Pre-Funded Warrants in lieu of common stock) and accompanying Class B Warrants, and after deducting underwriting discounts and estimated offering expenses payable by us, and assuming no exercise of the Warrants offered hereby and that such Warrants are classified and accounted for as stockholders' equity, our as adjusted net tangible book value as of September 30, 2019 would have been \$112.2 million, or \$6.97 per share of common stock. This represents an immediate increase in as adjusted net tangible book value of \$2.79 per share of common stock to our existing stockholders and immediate dilution in as adjusted net tangible book value of \$5.03 per share of common stock to new investors purchasing common stock or Pre-Funded Warrants and the accompanying Class B Warrants in this offering. Dilution per share is calculated by subtracting as adjusted net tangible book value per share after this offering from the public offering price per share of common stock (or Pre-Funded Warrant in lieu thereof) and the accompanying Class B Warrants.

Trade date:

November 26, 2019

Settlement date:

November 29, 2019

The issuer has filed a registration statement (including the Preliminary Prospectus Supplement and the accompanying base prospectus) with the U.S. Securities and Exchange Commission (the "SEC") for the offering to which this communication relates. Before you invest, you should read the Preliminary Prospectus Supplement and the accompanying base prospectus in that registration statement and other documents the issuer has filed with the SEC for more complete information about the issuer and this offering. You may get these documents, including the Preliminary Prospectus Supplement, for free by visiting EDGAR on the SEC Web site at <http://www.sec.gov>. Alternatively, the issuer, any underwriter or any dealer participating in the offering will arrange to send you the Preliminary Prospectus Supplement and the accompanying base prospectus if you request it by contacting Cowen and Company, LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, Attn: Prospectus Department, by email at PostSaleManualRequests@broadridge.com or by telephone at (833) 297-2926, and from Stifel, Nicolaus & Company, Incorporated, Attention: Syndicate, One Montgomery Street, Suite 3700, San Francisco, California 94104, or by telephone at 415-364-2720 or by email at syndprospectus@stifel.com.