

PROSPECTUS SUPPLEMENT
(To Prospectus dated July 13, 2011)

**\$25,000,000 of Shares of
BioCryst Pharmaceuticals, Inc.
Common Stock**

Pursuant to the Investor Financing Agreement (the "Agreement"), dated as of October 17, 2012, among BioCryst Pharmaceuticals, Inc. ("we," "us" or "our") and Baker Bros. Investments II, L.P., Baker Brothers Life Sciences, L.P., 14159, L.P., 667, L.P., Panorama Capital, L.P., Bay City Capital Fund IV, L.P., Bay City Capital Fund IV Co-Investment Fund, L.P., Ventures West 8 Limited Partnership and New Leaf Ventures II, L.P. (collectively, the "Investors"), the Investors have agreed to purchase from us, and we have agreed to sell to the Investors, \$25,000,000 of shares of our common stock, par value \$0.01 per share, subject to the terms and conditions set forth therein. The Agreement was entered into in connection with our entry into the Merger Agreement, dated as of October 17, 2012, among us, S Sub, Inc. ("Merger Sub"), Presidio Pharmaceuticals, Inc. ("Presidio") and Shareholder Representative Services LLC, solely in its capacity as Holder Representative (the "Merger Agreement") pursuant to which Merger Sub will merge with and into Presidio and Presidio will become a wholly-owned subsidiary of ours (the "Merger"). The shares to be issued to the Investors pursuant to the Agreement will be issued concurrently with the closing of the Merger (the "Closing Date"), at a price equal to the price of the shares issued in a contemplated public offering of our common stock that will be effected prior to, or simultaneously with, the closing of the Merger (the "Equity Offering"), and therefore the price per share and exact number of shares to be purchased by the Investors pursuant to the Agreement cannot be determined at this time. The issuance of the shares is subject to the satisfaction or waiver of certain conditions, including the closing of the Merger on the Closing Date and the approval of our stockholders of this issuance, the Merger and the Equity Offering.

Pursuant to the Agreement, the Investors agreed that, subject to certain exceptions, during the period beginning on the Closing Date and ending (1) 90 days following the Closing Date, no Investor may, directly or indirectly, transfer in excess of 25% of the total number of shares issued to the Investor pursuant to the Agreement or the Merger Agreement (the "Restricted Shares") held by such Investor on the Closing Date, (2) 120 days following the Closing Date, no Investor may, directly or indirectly, transfer (cumulatively, including amounts transferred pursuant to clause (1)) in excess of 50% of the total number of Restricted Shares held by such Investor on the Closing Date and (3) 150 days following the Closing Date, no Investor may, directly or indirectly, transfer (cumulatively, including amounts transferred pursuant to clauses (1) and (2)) in excess of 75% of the total number of Restricted Shares held by such Investor on the Closing Date. Following the 180-day anniversary of the Closing Date, all or any portion of the Restricted Shares may be transferred by an Investor without restriction under the Agreement. The terms of the Agreement will be described more fully in our Current Report on Form 8-K to be filed with the Securities and Exchange Commission within 4 business days after October 17, 2012.

Our common stock is listed on The Nasdaq Global Market under the symbol "BCRX." On October 17, 2012, the last reported sale price of our common stock on The Nasdaq Global Select Market was \$4.11 per share.

This prospectus supplement should be read in conjunction with, and may not be delivered or utilized without, the prospectus dated July 13, 2011.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is October 17, 2012.