

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

POST-EFFECTIVE AMENDMENT NO. 1 TO

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

BioCryst Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

62-1413174

(I.R.S. Employer Identification Number)

**4505 Emperor Blvd., Suite 200
Durham, North Carolina 27703
(919) 859-1302**

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

**Jon P. Stonehouse
President and Chief Executive Officer
4505 Emperor Blvd., Suite 200
Durham, North Carolina 27703
(919) 859-1302**

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

With a copy to:

**Brian Lane, Esq.
Robyn Zolman, Esq.
Gibson, Dunn & Crutcher LLP
1050 Connecticut Avenue, NW
Washington, DC 20036
(202) 955-8500**

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement, as determined by market conditions.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, 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, please 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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer (do not check if a smaller reporting company)

Smaller reporting company

CALCULATION OF REGISTRATION FEE

<u>Title of Each Class of Securities to be Registered</u>	<u>Amount to be Registered(1)</u>	<u>Proposed Maximum Offering Price Per Unit(3)</u>	<u>Proposed Maximum Aggregate Offering Price</u>	<u>Amount of Registration Fee(4)</u>
Common Stock, \$0.01 par value(2)				
Preferred Stock, \$0.01 par value(2)				
Depository Shares(2)				
Stock Purchase Contracts(2)				
Warrants(2)				
Units(2)				
<u>Total</u>	\$150,000,000	N/A	\$150,000,000	\$15,105

- (1) There are being registered under this registration statement such indeterminate number of securities of each identified class of the registrant, all at indeterminate prices, as shall have an aggregate initial offering price not to exceed \$150,000,000 or the equivalent amount denominated in one or more foreign currencies. Any securities registered under this registration statement may be sold separately or as units with other securities registered hereunder.
- (2) Pursuant to Rule 457(i) under the Securities Act, the securities registered hereunder also include such indeterminate number of shares of common stock, preferred stock, depository shares, stock purchase contracts, warrants and units as may be issued upon exercise, settlement, exchange or conversion of any securities registered hereunder that provide for those issuances. In addition, pursuant to Rule 416 under the Securities Act, the securities registered hereunder include such indeterminate number of securities as may be issuable with respect to the securities being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (3) The proposed maximum offering price per unit is not specified as to each class of securities to be registered, pursuant to General Instruction II.D of Form S-3 under the Securities Act. The proposed maximum offering price per unit will be determined from time to time by the registrant in connection with, and at the time of, the issuance of the securities registered hereunder.
- (4) Calculated pursuant to Rule 457(o) under the Securities Act.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a) may determine.

EXPLANATORY NOTE

This Post-Effective Amendment No. 1 to the Registration Statement on Form S-3 (Commission File No. 333-202466) (the "Registration Statement") of BioCryst Pharmaceuticals, Inc. is being filed for the purpose of amending the Registration Statement to reflect that the registrant is no longer a well-known seasoned issuer, as defined in Rule 405 under the Securities Act, because the worldwide market value of its outstanding common stock held by non-affiliates was less than \$700 million as of the registrant's most recent determination date. This Post-Effective Amendment is being filed to convert the Registration Statement to a non-automatic shelf registration statement.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission becomes effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED FEBRUARY 26, 2016

PROSPECTUS



**\$150,000,000
Common Stock
Preferred Stock
Depositary Shares
Stock Purchase Contracts
Warrants
Units**

By this prospectus, we may from time to time offer securities to the public. We will provide specific terms of these securities in supplements to this prospectus. You should read this prospectus, the applicable prospectus supplement, and the information incorporated by reference in this prospectus and the applicable prospectus supplement carefully before you invest.

Our common stock, par value \$0.01 per share, trades on the NASDAQ Global Select Market under the symbol "BCRX."

We have not authorized anyone else to make additional representations or to provide you with information other than information provided or incorporated by reference in this prospectus or any prospectus supplement. We take no responsibility for, and can provide no assurances as to the reliability of, any other information that others may give you or representations that others may make. We are not making or soliciting an offer of any securities other than the securities described in this prospectus and any prospectus supplement. We are not making or soliciting an offer of these securities in any state or jurisdiction where the offer is not permitted or in any circumstances in which such offer or solicitation is unlawful. You should not assume that the information contained or incorporated by reference in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front of those documents.

Investing in these securities involves a high degree of risk. See "Risk Factors" on page 2 of this prospectus, in the applicable prospectus supplement we will deliver with this prospectus and in the documents incorporated herein and therein by reference.

The securities may be sold by us to or through underwriters or dealers, directly to purchasers or through agents designated from time to time, or through a combination of these methods. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus. If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable discounts or commissions and over-allotment options will be set forth in a 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. This prospectus may not be used to sell any securities unless accompanied by a prospectus supplement.

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 _____, 2016.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration or continuous offering process. Under this registration statement, we may sell any combination of the securities described in this prospectus from time to time, either separately or in units, in one or more offerings. Together, these offerings may total up to \$150.0 million.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement containing specific information about the terms of that offering. That prospectus supplement may add, update or change information contained in this prospectus and will also include the following information:

- the type and amount of securities that we propose to sell;
- the public offering price of the securities;
- the names of any underwriters, agents or dealers through or to which the securities will be sold;
- any compensation of those underwriters, agents or dealers;
- information about any securities exchanges or automated quotation systems on which the securities will be listed or traded;
- any risk factors applicable to the securities that we propose to sell; and
- any other material information about the offering and sale of the securities.

If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in the prospectus supplement. You should read both this prospectus and any prospectus supplement together with the additional information described under the heading “Where You Can Find More Information.” The registration statement containing this prospectus, including the exhibits to the registration statement, provides additional information about us and the securities offered under this prospectus. The registration statement, including the exhibits, can be read at the SEC’s website or at the SEC’s offices referenced under the heading “Where You Can Find More Information.”

All references to “Company,” “we,” “our,” or “us” refer solely to BioCryst Pharmaceuticals, Inc. and not to the persons who manage us or sit on our Board of Directors. All trade names used in this prospectus are either our registered trademarks or trademarks of their respective holders.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere or incorporated by reference into this prospectus. Because it is a summary, it does not contain all of the information that you should consider before investing in our securities. You should read this entire prospectus carefully, including the section entitled "Risk Factors" and the documents that we incorporate by reference into this prospectus, before making an investment decision.

Business of BioCryst Pharmaceuticals, Inc.

We are a biotechnology company that designs, optimizes and develops novel small molecule drugs that block key enzymes involved in the pathogenesis of diseases. We focus on the treatment of rare diseases in which significant unmet medical needs exist and that align with our capabilities and expertise. We integrate the disciplines of biology, crystallography, medicinal chemistry and computer modeling to discover and develop small molecule pharmaceuticals through the process known as structure-guided drug design. Structure-guided drug design is a drug discovery approach by which we design synthetic compounds from detailed structural knowledge of the active sites of enzyme targets associated with particular diseases. We use X-ray crystallography, computer modeling of molecular structures and advanced chemistry techniques to focus on the three-dimensional molecular structure and active site characteristics of the enzymes that control cellular biology. Enzymes are proteins that act as catalysts for many vital biological reactions. Our goal generally is to design a compound that will fit in the active site of an enzyme and thereby prevent its catalytic activity.

We are a Delaware corporation originally founded in 1986. Our principal executive offices are located at 4505 Emperor Blvd. Suite 200, Durham, North Carolina 27703, and our telephone number is (919) 859-1302. For more information about us, please visit our website at <http://www.biocryst.com>. The information on our web site is not incorporated by reference into this prospectus.

RISK FACTORS

Investing in our securities involves risks. Our business is influenced by many factors that are difficult to predict and beyond our control and that involve uncertainties that may materially affect our business, results of operations, financial condition or cash flows, or the value of these securities. These risks and uncertainties are described in the risk factors section of the documents that are incorporated by reference in this prospectus. Any subsequent prospectus supplement may contain a discussion of additional risks applicable to an investment in us and the particular type of securities we are offering under such prospectus supplement. You should carefully consider all of the information contained in or incorporated by reference in this prospectus and in the applicable prospectus supplement before you invest in our securities.

INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any subsequent prospectus supplement, including the information we incorporate by reference, contain forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), which are subject to the “safe harbor” created in Section 21E. All statements other than statements of historical facts contained in this prospectus, any subsequent prospectus supplement and the information we incorporate by reference are forward-looking statements. These forward-looking statements can generally be identified by the use of words such as “may,” “will,” “intends,” “plans,” “believes,” “anticipates,” “expects,” “estimates,” “predicts,” “potential,” the negative of these words or similar expressions. Statements that describe our future plans, strategies, intentions, expectations, objectives, goals or prospects are also forward-looking statements. These forward-looking statements include, but are not limited to, statements about:

- the initiation, timing, progress and results of our preclinical testing, clinical trials, and to the extent applicable, post-marketing commitments, for our HAE product candidates, RAPIVAB, BCX4430, and our other research and development efforts;
- the further preclinical development, clinical development, commercialization, or post-marketing studies by either us or partners of our product candidates and products, including our HAE program, RAPIVAB, BCX4430, and early stage discovery programs;
- the potential funding from our contracts with the Biomedical Advanced Research and Development Authority within the United States Department of Health and Human Services (“BARDA/HHS”) and the National Institute of Allergy and Infectious Diseases within the United States Department of Health and Human Services (“NIAID/HHS”) for the development of BCX4430;
- the potential for government stockpiling orders of RAPIVAB, additional regulatory approvals of RAPIVAB or milestones royalties or profit from commercial sales of RAPIVAB by us or our partners;
- the potential use of RAPIVAB as a treatment for H1N1, H5N1, and H7N9 or other strains of influenza;
- the implementation of our business model, strategic plans for our business, products, product candidates and technology;
- our ability to establish and maintain collaborations or out-license rights to our drug candidates;
- plans, programs, progress and potential success of our collaborations, including Sequirus UK Limited (“SUL”) for RAPIVAB, Mundipharma International Holdings Limited (“Mundipharma”) for forodesine and Shionogi & Co., Ltd. (“Shionogi”) and Green Cross Corporation (“Green Cross”) for peramivir in their territories;
- JPR Royalty Sub LLC’s (“Royalty Sub”) ability to service its payment obligations in respect of the PhARMA Notes, and our ability to benefit from our equity interest in Royalty Sub;
- the foreign currency hedge agreement entered into by us in connection with the issuance by Royalty Sub of the PhARMA Notes;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our products, product candidates and technology;
- our ability to operate our business without infringing the intellectual property rights of others;
- estimates of our expenses, revenues, capital requirements and our needs for additional financing;
- the timing or likelihood of regulatory filings or regulatory agreements, deferrals and approvals;
- our ability to raise additional capital to fund our operations;

- our financial performance; and
- competitive companies, technologies and our industry.

These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under “Risk Factors” and elsewhere in this prospectus, any subsequent prospectus supplement and the documents incorporated by reference. Any forward-looking statement reflects our current views with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

Discussions containing these forward-looking statements are also contained in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” incorporated by reference from our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q for the quarters ended since our most recent Annual Report, our Current Reports on Form 8-K, as well as any future amendments we make to those filings or future filings with the SEC.

USE OF PROCEEDS

Except as otherwise described in the applicable prospectus supplement, the net proceeds we expect to receive from the sale of any securities offered hereunder will be added to our general funds and used for general corporate purposes, which may include, but are not limited to:

- funding development, manufacturing and regulatory activities for avoralstat;
- funding development, manufacturing and regulatory activities for BCX7353;
- funding development, manufacturing and regulatory activities for other second generation HAE compounds;
- post-approval commitments such as the pediatric study for RAPIVAB™;
- pre-launch commercial activities for the HAE market;
- the advancement of development activities on other rare disease targets;
- funding our research and development efforts;
- capital expenditures and enhancing our laboratory facilities; and
- general working capital needs.

We may also use a portion of the net proceeds to acquire or invest in businesses, assets, products and technologies that are complementary to our own, although we are not currently contemplating or negotiating any such acquisitions or investments.

The amount and timing of these expenditures will depend on a number of factors, including the progress of our research and development efforts and amounts received under our existing and any future government contracts and collaboration arrangements, as well as the amount of cash used in our operations. Accordingly, our management will have broad discretion in the application of these proceeds, and investors will be relying on the judgment of our management with regard to the use of these proceeds. Pending application of the net proceeds as described above, we intend to invest the net proceeds in investment grade interest bearing instruments.

DESCRIPTION OF COMMON STOCK, PREFERRED STOCK AND DEPOSITARY SHARES

The following summary description of our capital stock summarizes general terms and provisions that apply to the capital stock. Because this is only a summary, it does not contain all of the information that may be important to you. This summary is subject to and qualified in its entirety by reference to our restated certificate of incorporation, as amended, by-laws, as amended, and the rights agreement, as amended, each of which are on file with the SEC. See “Where You Can Find More Information.”

Authorized and Outstanding Capital Stock

Our authorized capital stock consists of 200,000,000 shares of common stock, par value \$0.01 per share, and 5,000,000 shares of preferred stock, par value \$0.01 per share, of which 200,000 shares are designated Series B Junior Participating Preferred Stock with a par value of \$0.001 per share. On February 24, 2016, there were 73,629,816 shares of common stock outstanding and no shares of preferred stock outstanding.

Common Stock

Holders of our common stock are entitled to one vote per share on all matters submitted to a vote of stockholders and may not cumulate votes for the election of directors. Common stockholders have the right to receive dividends as and when declared by the Board of Directors from funds legally available therefor, subject to any preferential dividend rights of any preferred stock then outstanding. Upon our dissolution or liquidation, common stockholders are entitled to receive all assets legally available for distribution to stockholders, subject to any preferential rights of any preferred stock then outstanding. Holders of common stock have no preemptive rights and have no rights to convert their common stock into any other securities.

Preferred Stock

Preferred stock may be issued from time to time in one or more series, each such series to have such terms as determined by our Board of Directors. Our Board of Directors has the authority to determine and fix such voting powers, full or limited, or no voting powers, and such designations, preferences and relative participating, optional or other special rights, and qualifications, limitations or restrictions thereof, including without limitation dividend rights, conversion rights, redemption privileges and liquidation preferences, without further vote or action by our stockholders. We will distribute a prospectus supplement with regard to each particular series of preferred stock that will describe the terms and provisions of that series of preferred stock. The rights of the holders of any preferred stock that may be issued may adversely affect the rights of the holders of common stock. The issuance of preferred stock could make it more difficult for third parties to acquire a majority of our outstanding voting stock.

Anti-Takeover Provisions

Our certificate of incorporation provides for staggered terms for the members of the board of directors and supermajority approval of the removal of any member of the board of directors and prevents our stockholders from acting by written consent. Our certificate also requires supermajority approval of any amendment of these provisions. These provisions and other provisions of our by-laws and of Delaware law applicable to us could delay or make more difficult a merger, tender offer or proxy contest involving us.

Depositary Shares

We may, at our option, elect to offer fractional shares of preferred stock, rather than full shares of preferred stock. If we exercise this option, we will issue to the public receipts for depositary shares, and each of these depositary shares will represent a fraction, to be set forth in the applicable prospectus supplement, of a share of a particular series of preferred stock.

The shares of any series of preferred stock underlying the depositary shares will be deposited under a deposit agreement between us and a bank or trust company selected by us. The depositary will have its principal office in the United States and a combined capital and surplus of at least \$50,000,000. Subject to the terms of the deposit agreement, each owner of a depositary share will be entitled, in proportion to the applicable fraction of a share of preferred stock underlying the depositary share, to all the rights and preferences of the preferred stock underlying that depositary share. Those rights may include dividend, voting, redemption, conversion and liquidation rights.

The depositary shares will be evidenced by depositary receipts issued under a deposit agreement. Depositary receipts will be distributed to those persons purchasing the fractional shares of preferred stock underlying the depositary shares, in accordance with the terms of the offering. The following description of the material terms of the deposit agreement, the depositary shares and the depositary receipts is only a summary and you should refer to all the forms of the deposit agreement and depositary receipts that will be filed with the SEC in connection with the offering of the specific depositary shares.

Pending the preparation of definitive engraved depositary receipts, the depositary, upon our written order, may issue temporary depositary receipts substantially identical to the definitive depositary receipts but not in definitive form. These temporary depositary receipts would entitle their holders to all the rights of definitive depositary receipts. Temporary depositary receipts would be exchangeable for definitive depositary receipts at our expense.

Dividends and Other Distributions. The depositary will distribute all cash dividends or other cash distributions received with respect to the underlying stock to the record holders of depositary shares in proportion to the number of depositary shares owned by those holders.

If there were a distribution other than in cash, the depositary would distribute property received by it to the record holders of depositary shares that are entitled to receive the distribution, unless the depositary determines that it is not feasible to make the distribution. If this occurs, the depositary, with our approval, would sell the property and distribute the net proceeds from the sale to the applicable holders.

Withdrawal of Underlying Preferred Stock. Unless we provide otherwise in a prospectus supplement, holders may surrender depositary receipts at the principal office of the depositary and, upon payment of any unpaid amount due to the depositary, would be entitled to receive the number of whole shares of underlying preferred stock and all money and other property represented by the related depositary shares. We will not issue any partial shares of preferred stock. If the holder delivers depositary receipts evidencing a number of depositary shares that represent more than a whole number of shares of preferred stock, the depositary will issue a new depositary receipt evidencing the excess number of depositary shares to that holder.

Redemption of Depositary Shares. If a series of preferred stock represented by depositary shares were subject to redemption, the depositary shares would be redeemed from the proceeds received by the depositary resulting from the redemption, in whole or in part, of that series of underlying stock held by the depositary. The redemption price per depositary share would be equal to the applicable fraction of the redemption price per share payable with respect to that series of underlying stock. Whenever we redeem shares of underlying stock that are held by the depositary, the depositary will redeem, as of the same redemption date, the number of depositary shares representing the shares of underlying stock so redeemed. If fewer than all the depositary shares are to be redeemed, the depositary shares to be redeemed will be selected by lot or proportionately, as may be determined by the depositary.

Voting. Upon receipt of notice of any meeting at which the holders of the underlying stock are entitled to vote, the depositary will mail the information contained in the notice to the record holders of the depositary shares underlying the preferred stock. Each record holder of the depositary shares on the record date, which will be the same date as the record date for the underlying stock, will be entitled to instruct the depositary as to the exercise of the voting rights pertaining to the amount of the underlying stock represented by that holder's depositary shares. The depositary will then try, as far as practicable, to vote the number of shares of preferred stock underlying those depositary shares in accordance with those instructions, and we will agree to take all actions which may be deemed necessary by the depositary to enable the depositary to do so. The depositary will not vote the underlying shares to the extent it does not receive specific instructions from the holders of depositary shares underlying the preferred stock.

Conversion of Preferred Stock. If the prospectus supplement relating to the depositary shares provides that the deposited preferred stock is convertible into or exchangeable for common stock or preferred stock of another series of BioCryst or securities of any third party, the following will apply. The depositary shares, as such, will not be convertible into or exchangeable for any securities of BioCryst or any third party. Rather, any holder of the depositary shares may surrender the related depositary receipts to the depositary with written instructions to instruct us to cause conversion or exchange of the preferred stock represented by the depositary shares into or for whole shares of common stock or shares of another series of preferred stock of BioCryst or securities of the relevant third party, as applicable. Upon receipt of those instructions and any amounts payable by the holder in connection with the conversion or exchange, we will cause the conversion or exchange using the same procedures as those provided for conversion or exchange of the deposited preferred stock. If only some of the depositary shares are to be converted or exchanged, a new depositary receipt or receipts will be issued for any depositary shares not to be converted or exchanged.

Amendment and Termination of the Depositary Agreement. The form of depositary receipt evidencing the depositary shares and any provision of the deposit agreement may be amended at any time by agreement between us and the depositary. However, any amendment which materially and adversely alters the rights of the holders of depositary shares will not be effective unless the amendment has been approved by the holders of at least a majority of the depositary shares then outstanding. The deposit agreement may be terminated by us or by the depositary only if (a) all outstanding depositary shares have been redeemed or converted or exchanged for any other securities into which the underlying preferred stock is convertible or exchangeable or (b) there has been a final distribution of the underlying stock in connection with our liquidation, dissolution or winding up and the underlying stock has been distributed to the holders of depositary receipts.

Charges of Depositary. We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangements. We will also pay charges of the depositary in connection with the initial deposit of the underlying stock and any redemption of the underlying stock. Holders of depositary receipts will pay other transfer and other taxes and governmental charges and those other charges, including a fee for any permitted withdrawal of shares of underlying stock upon surrender of depositary receipts, as are expressly provided in the deposit agreement to be for their accounts.

Reports. The depositary will forward to holders of depositary receipts all reports and communications from us that we deliver to the depositary and that we are required to furnish to the holders of the underlying stock.

Limitation on Liability. Neither we nor the depositary will be liable if either of us is prevented or delayed by law or any circumstance beyond our control in performing our respective obligations under the deposit agreement. Our obligations and those of the depositary will be limited to performance in good faith of our respective duties under the deposit agreement. Neither we nor the depositary will be obligated to prosecute or defend any legal proceeding in respect of any depositary shares or underlying stock unless satisfactory indemnity is furnished. We and the depositary may rely upon written advice of counsel or accountants, or upon information provided by persons presenting underlying stock for deposit, holders of depositary receipts or other persons believed to be competent and on documents believed to be genuine.

Resignation and Removal of Depositary. The depositary may resign at any time by delivering notice to us of its election to resign. We may remove the depositary at any time. Any resignation or removal will take effect upon the appointment of a successor depositary and its acceptance of the appointment. The successor depositary must be appointed within 60 days after delivery of the notice of resignation or removal and must be a bank or trust company having its principal office in the United States and having a combined capital and surplus of at least \$50,000,000.

DESCRIPTION OF STOCK PURCHASE CONTRACTS

The following is a general description of the terms of the stock purchase contracts we may issue from time to time. Particular terms of any stock purchase contracts we offer will be described in the prospectus supplement relating to such stock purchase contracts. Material U.S. federal income tax considerations applicable to the stock purchase contracts will also be discussed in the applicable prospectus supplement. You should refer to the form of stock purchase contract and stock purchase certificate that we will file with the SEC in connection with the offering of the specific stock purchase contracts for more complete information.

We may issue stock purchase contracts, including contracts obligating holders to purchase from us, and obligating us to sell to holders, a specified number of shares of common stock, preferred stock or depositary shares at a future date. The consideration per share of common stock, preferred stock or depositary shares may be fixed at the time that the stock purchase contracts are issued or may be determined by reference to a specific formula set forth in the stock purchase contracts. Any stock purchase contract may include anti-dilution provisions to adjust the number of shares issuable pursuant to such stock purchase contract upon the occurrence of certain events.

The applicable prospectus supplement will describe the terms of any stock purchase contracts in respect of which this prospectus is being delivered, including, to the extent applicable, the following:

- whether the stock purchase contracts obligate the holder or us to purchase or sell, or both purchase and sell, the securities subject to purchase under the stock purchase contract, and the nature and amount of each of those securities, or the method of determining those amounts;
- whether the stock purchase contracts are to be prepaid or not;
- whether the stock purchase contracts will be issued as part of a unit and, if so, the other securities comprising the unit;
- whether the stock purchase contracts are to be settled by delivery, or by reference or linkage to the value, performance, or level of the securities subject to purchase under the stock purchase contract;
- any acceleration, cancellation, termination, or other provisions relating to the settlement of the stock purchase contracts; and
- whether the stock purchase contracts will be issued in full registered or global form.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase our preferred stock, depositary shares or common stock or any combination thereof. Warrants may be issued independently or together with any other securities in the form of units, and may be attached to, or separate from, such securities. The terms of any warrants to be issued and a description of the material provisions of the applicable warrant agreement will be set forth in the applicable prospectus supplement. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. You should refer to the form of warrant agreement and warrant that we file with the SEC in connection with the offering of the specific warrants for more complete information.

The prospectus supplement will describe the terms of any warrants being offered, including:

- the title and the aggregate number of warrants;
- the price or prices at which the warrants will be issued;
- the currency or currencies in which the price of the warrants will be payable;
- the securities or other rights, including rights to receive payment in cash or securities based on the value, rate or price of one or more specified commodities, currencies, securities or indices, or any combination of the foregoing, purchasable upon exercise of the warrants;
- the price at which, and the currency or currencies in which, the securities or other rights purchasable upon exercise of such warrants may be purchased;
- the periods during which, and places at which, the warrants are exercisable;
- the date or dates on which the warrants shall commence and the date or dates on which the warrants will expire;
- the terms of any mandatory or optional call provisions;
- the price or prices, if any, at which the warrants may be redeemed at the option of the holder or will be redeemed upon expiration;
- whether the warrants will be sold separately or with other securities as part of a unit;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- any provisions for the adjustment of the number or amount of securities receivable upon exercise of warrants;
- the identity of the warrant agent;
- the exchanges, if any, on which the warrants may be listed;
- the maximum or minimum number of warrants which may be exercised at any time;
- if applicable, a discussion of any material United States federal income tax considerations;
- whether the warrants shall be issued in book-entry form; and

- any other terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

DESCRIPTION OF UNITS

We may issue units consisting of one or more of the other securities described in this prospectus in any combination, as described in a prospectus supplement. We may issue units in one or more series, which will be described in a prospectus supplement. We will issue the units or hybrid securities under one or more unit agreements, each referred to as a unit agreement, to be entered into between us and a bank or trust company, as unit agent. You should refer to the form of unit agreement and unit certificate that we file with the SEC in connection with the offering of the specific units for more complete information.

The applicable prospectus supplement will describe:

- the designation and the terms of the units and of the securities constituting the units, including whether and under what circumstances the securities comprising the units may be traded separately;
- any additional terms of the governing unit agreement;
- any additional provisions for the issuance, payment, settlement, transfer or exchange of the units or of the preferred stock, common stock, stock purchase contracts, depositary shares or warrants constituting the units; and
- any applicable United States federal income tax consequences.

PLAN OF DISTRIBUTION

We may sell the securities being offered hereby at prices and under terms then prevailing, at prices related to the then current market price or in negotiated transactions from time to time in one or more of the following ways:

- directly to one or more purchasers;
- through one or more underwriters on a firm commitment or best-efforts basis;
- through broker-dealers, who may act as agents or principals, including a block trade in which a broker or dealer so engaged will attempt to sell as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- through agents;
- through remarketing firms;
- in privately negotiated transactions; or
- in any combination of these methods of sale.

We will set forth in a prospectus supplement the terms of the offering of securities, including:

- the name or names of any underwriters, dealers or agents;
- the number of securities and purchase price of the securities being offered and the proceeds we will receive from the sale;
- any underwriting discounts and commissions or agency fees and other items constituting underwriters' or agents' compensation;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any delayed delivery arrangements;
- any discounts or concessions allowed or re-allowed or paid to dealers; and
- any securities exchange on which the securities may be listed.

The distribution of the securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed, at market prices prevailing at the time of sale, at prices related to the prevailing market prices or at negotiated prices.

We may designate agents who agree to use their reasonable efforts to solicit purchases for the period of their appointment or to sell securities on a continuing basis. Agents may receive compensation in the form of commissions, discounts or concessions from us. Agents may also receive compensation from the purchasers of the securities for whom they sell as principals. Each particular agent will receive compensation in amounts negotiated in connection with the sale, which might be in excess of customary commissions. Agents and any other participating broker-dealers may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act of 1933 (the "Securities Act") in connection with sales of the securities. Accordingly, any commission, discount or concession received by them and any profit on the resale of the securities purchased by them may be deemed to be underwriting discounts or commissions under the Securities Act. We have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their securities. As of the date of this prospectus, there are no special selling arrangements between any broker-dealer or other person and us. No period of time has been fixed within which the securities will be offered or sold.

If required under applicable state securities laws, we will sell the securities only through registered or licensed brokers or dealers. In addition, in some states, we may not sell securities unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and complied with.

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may change from time to time any initial public offering price and any discounts or concessions the underwriters allow or re-allow or pay to dealers. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement naming the underwriter the nature of any such relationship.

We may use a remarketing firm to offer to sell the securities in connection with a remarketing arrangement upon their purchase. Remarketing firms will act as principals for their own account or as agents for us. These remarketing firms will offer or sell the securities pursuant to the terms of the securities. A prospectus supplement will identify any remarketing firm and the terms of its agreement, if any, with us and will describe the remarketing firm's compensation. Remarketing firms may be deemed to be underwriters in connection with the securities they remarket.

If we offer and sell securities through a dealer, we or an underwriter will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. Any such dealer may be deemed to be an underwriter of the securities so offered and sold. The name of the dealer and the terms of the transactions will be set forth in the applicable prospectus supplement.

We may also sell securities directly to one or more purchasers without using underwriters or agents. Underwriters, dealers and agents that participate in the distribution of the securities may be underwriters as defined in the Securities Act and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act.

We will identify in the applicable prospectus supplement any underwriters, dealers or agents and will describe their compensation. We may have agreements with the underwriters, dealers and agents to indemnify them against specified civil liabilities, including liabilities under the Securities Act. Underwriters, dealers and agents may engage in transactions with or perform services for us in the ordinary course of their businesses.

We may authorize agents, dealers or underwriters to solicit offers to purchase securities at the public offering price under delayed delivery contracts. The terms of these delayed delivery contracts, including when payment for and delivery of the securities sold will be made under the contracts and any conditions to each party's performance set forth in the contracts, will be described in the applicable prospectus supplement. The compensation received by underwriters, agents or dealers soliciting purchases of securities under delayed delivery contracts will be described in the applicable prospectus supplement.

We may enter into derivative or other hedging transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. We may also loan or pledge securities covered by this prospectus and the applicable prospectus supplement to third parties, who may sell the loaned securities or, in an event of default in the case of a pledge, sell the pledged securities pursuant to this prospectus and the applicable prospectus supplement.

Unless otherwise specified in the related prospectus supplement, all securities we offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We may apply to list any series of securities on an exchange, but we are not obligated to do so. Therefore, no assurance can be given as to the liquidity of, or the trading market for, any series of securities.

Any underwriter may engage in over-allotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. These transactions may be effected on The NASDAQ Global Select Market or otherwise.

Any underwriters who are qualified market makers on The NASDAQ Global Select Market may engage in passive market making transactions in the common stock on The NASDAQ Global Select Market in accordance with Rule 103 of Regulation M, during the business day before the pricing of the offering, before the commencement of offers or sales of the common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

We will bear all costs, expenses and fees in connection with the registration of the securities, as well as the expense of all commissions and discounts, if any, attributable to sales of the securities by us.

LEGAL MATTERS

Gibson, Dunn & Crutcher LLP has rendered an opinion with respect to the validity of the securities being offered by this prospectus. We have filed this opinion as an exhibit to the registration statement of which this prospectus is a part. If counsel for any underwriters passes on legal matters in connection with an offering made by this prospectus, we will name that counsel in the prospectus supplement relating to that offering.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2015, and the effectiveness of our internal control over financial reporting as of December 31, 2015, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file electronically with the SEC our annual reports on Form 10-K, quarterly interim reports on Form 10-Q, current reports on Form 8-K, proxy statements and other information. We make available on or through our website, <http://www.biocryst.com>, free of charge, copies of these filings as soon as reasonably practicable after we electronically file them with or furnish them to the SEC. The information on our website is not incorporated by reference into this prospectus. You can also request copies of such documents by contacting our Investor Relations Department at 4505 Emperor Blvd., Suite 200, Durham, North Carolina 27703 or sending an email to investorrelations@biocryst.com. You may read and copy any document we file at the SEC's Public Reference Room at 100 F Street NE, Washington, D.C. 20549. You can also obtain copies of this information by mail from the Public Reference Room of the SEC at prescribed rates. You may obtain information on the operation of the Public Reference Room by calling the SEC at (800) SEC-0330.

The SEC also maintains an Internet site that contains reports, proxy and information statements, and other information about issuers, like BioCryst, that file electronically with the SEC. The address of that site is <http://www.sec.gov>. Unless specifically listed below under "Incorporation of Certain Documents by Reference" the information contained on the SEC website is not incorporated by reference into this prospectus.

We have filed with the SEC a registration statement on Form S-3 that registers the securities we are offering. The registration statement, including the attached exhibits and schedules, contains additional relevant information about us and our securities. The rules and regulations of the SEC allow us to omit certain information included in the registration statement from this prospectus.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus, except for any information that is superseded by information that is included directly in this document.

This prospectus includes by reference the documents listed below that we have previously filed with the SEC and that are not included in or delivered with this document. They contain important information about us and our financial condition.

- Our Annual Report on Form 10-K for the year ended December 31, 2015, filed with the SEC on February 26, 2016;
- Our Current Reports on Form 8-K filed with the SEC on January 8, 2016 and February 8, 2016; and
- The description of our common stock which is contained in our Registration Statement on Form 8-A (File No. 000-23186) filed with the SEC on January 7, 1994, together with the amendment thereto filed with the SEC on March 14, 1994, including any other amendment or reports filed for the purpose of updating such description.

All documents filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this Amendment No. 1 and prior to its effectiveness and on or after the date of this prospectus and prior to the termination of our offering of securities shall be deemed to be incorporated by reference herein and to be a part of this prospectus from the date of filing of such documents, excluding any information furnished under Item 2.02 or Item 7.01 of any Current Report on Form 8-K and exhibits filed on such form that are related to such items. Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You can obtain any of the documents incorporated by reference in this prospectus from us without charge, excluding any exhibits to those documents unless the exhibit is specifically incorporated by reference as an exhibit to this prospectus. You can obtain documents incorporated by reference in this prospectus at no cost by requesting them in writing or by telephone from us at the following address:

Investor Relations
BioCryst Pharmaceuticals, Inc.
4505 Emperor Blvd., Suite 200
Durham, North Carolina 27703
(919) 859-1302

We have not authorized anyone else to make additional representations or to provide you with information other than information provided or incorporated by reference in this prospectus or any prospectus supplement. We take no responsibility for, and can provide no assurances as to the reliability of, any other information that others may give you or representations that others may make. If you are in a jurisdiction where offers to sell, or solicitations of offers to purchase, the securities offered by this document are unlawful, or if you are a person to whom it is unlawful to direct these types of activities, then the offer presented in this document does not extend to you.



BioCryst Pharmaceuticals, Inc.

**\$150,000,000
Common Stock
Preferred Stock
Depositary Shares
Stock Purchase Contracts
Warrants
Units**

PROSPECTUS

, 2016

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The following table sets forth all expenses payable by the registrant in connection with the issuance and distribution of the securities, other than underwriting discounts and commissions. The registrant will bear all of such expenses. All the amounts shown are estimates, except the registration fee.

Registration fee	\$	15,105
Accounting fees and expenses		50,000
Legal fees and expenses		150,000
Printing and engraving		50,000
Miscellaneous		34,895
Total	\$	<u>300,000</u>

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145 of the Delaware General Corporation Law (the “DGCL”) sets forth the circumstances in which a Delaware corporation is permitted and/or required to indemnify its directors and officers. The DGCL permits a corporation to indemnify its directors and officers in certain proceedings if the director or officer has complied with the standard of conduct set out in the DGCL. The standard of conduct requires that the director or officer must have acted in good faith, in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to matters in a criminal proceeding, the director or officer must have had no reason to believe that his or her conduct was unlawful. With respect to suits by or in the right of the corporation, the DGCL permits indemnification of directors and officers if the person meets the standard of conduct, except that it precludes indemnification of directors and officers who are adjudged liable to the corporation, unless the Court of Chancery or the court in which the corporation’s action or suit was brought determines that the director or officer is fairly and reasonably entitled to indemnity for expenses. To the extent that a present or former director or officer of the corporation is successful on the merits or otherwise in his or her defense of a proceeding, the corporation is required to indemnify the director or officer against reasonable expenses incurred in defending himself or herself. The rights provided in Section 145 of the DGCL are not exclusive, and the corporation may also provide for indemnification under bylaw, agreement, vote of stockholders or disinterested directors or otherwise.

The registrant’s Third Restated Certificate of Incorporation, as amended (the “Certificate of Incorporation”), provides for indemnification of any director or officer who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was, or has agreed to become, a director or officer of the registrant, or is or was serving, or agreed to serve, at the request of the registrant, as a director, officer or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with such action, suit or proceeding and any appeal therefrom, in each case to the fullest extent permitted by the DGCL. The registrant shall not indemnify any person seeking indemnification in connection with a proceeding or part thereof initiated by such person unless the initiation was approved by the Board of Directors of the registrant. The Certificate of Incorporation further provides for permissible indemnification of employees and other agents to the maximum extent permitted by the DGCL and the Certificate of Incorporation with respect to directors and officers.

Section 102(b)(7) of the DGCL provides that a corporation may relieve its directors from personal liability to the corporation or its stockholders for monetary damages for any breach of their fiduciary duty as directors except for (i) a breach of the duty of loyalty; (ii) acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law; (iii) willful or negligent violations of certain provisions in the DGCL imposing certain requirements with respect to stock repurchases, redemptions and dividends; or (iv) for any transactions from which the director derived an improper personal benefit. The registrant’s Certificate of Incorporation provides that no directors of the registrant shall be liable to the registrant or its stockholders for monetary damages for breach of fiduciary duty as a director to the fullest extent permitted by the DGCL.

In addition, the registrant currently maintains liability insurance for its directors and officers insuring them against certain liabilities asserted against them in their capacities as directors or officers or arising out of such status.

The indemnification provisions noted above may be sufficiently broad to permit indemnification of the registrant's officers and directors for liabilities arising under the Securities Act.

ITEM 16. EXHIBITS.

See the Exhibit Index attached to this registration statement and incorporated herein by reference.

ITEM 17. UNDERTAKINGS.

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:

(a) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(b) 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 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(c) 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 (1)(a), (1)(b) and (1)(c) 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 15(d) of the Exchange Act 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:

(a) 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

(b) 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:

(a) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(b) 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;

(c) 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

(d) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

The undersigned registrant hereby undertakes 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 Section 15(d) of the Exchange Act 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.

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 described in Item 15, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities 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 Securities Act and will be governed by the final adjudication of such issue.

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-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, on February 26, 2016.

BioCryst Pharmaceuticals, Inc.

By: /s/ Jon P. Stonehouse
Jon P. Stonehouse
President and Chief Executive Officer

POWER OF ATTORNEY

Each of the undersigned officers and directors of BioCryst Pharmaceuticals, Inc. hereby severally constitutes and appoints Jon P. Stonehouse, Thomas R. Staab and Alane Barnes, and each of them singly, his or her true and lawful attorneys-in-fact and agent, with full power to them and each of them singly, with full and several power of substitution and resubstitution, to sign for him or her in his or her name in the capacities indicated below, any and all amendments (including post-effective amendments or any abbreviated Registration Statement, and any amendments thereto, filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended), and to file the same, with all exhibits thereto, and 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 perform any other act on behalf of the undersigned required to be done in the premises, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them or their substitutes or resubstitutes, 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 indicated on February 26, 2016.

Name	Title
<u>/s/ Jon P. Stonehouse</u> Jon P. Stonehouse	President, Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ Thomas R. Staab II</u> Thomas R. Staab II	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)
<u>/s/ George B. Abercrombie</u> George B. Abercrombie	Director
<u>/s/ Fred E. Cohen</u> Fred E. Cohen, M.D., D.Phil	Director
<u>/s/ Stanley C. Erck</u> Stanley C. Erck	Director
_____ Nancy Hutson, Ph.D.	Director
<u>/s/ Robert A. Ingram</u> Robert A. Ingram	Director
<u>/s/ Kenneth B. Lee, Jr.</u> Kenneth B. Lee, Jr.	Director
<u>/s/ Sanj K. Patel</u> Sanj K. Patel	Director
<u>/s/ Charles A. Sanders</u> Charles A. Sanders, M.D.	Director

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
1.1*	Form of Underwriting Agreement.
4.1	Third Restated Certificate of Incorporation of the Company. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed December 22, 2006 (File No. 000-23186).
4.2	Certificate of Amendment to the Third Restated Certificate of Incorporation of the Company. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed July 24, 2007 (File No. 000-23186).
4.3	Certificate of Amendment to the Third Restated Certificate of Incorporation of the Company. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed May 7, 2014.
4.4	Certificate of Increase of Authorized Number of Shares of Series B Junior Participating Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed November 4, 2008 (File No. 000-23186).
4.5	Certificate of Increase of Authorized Number of Shares of Series B Junior Participating Preferred Stock of the Company. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed May 7, 2014 (File No. 000-23186).
4.6	Amended and Restated Bylaws of the Company effective October 29, 2008. Incorporated by reference to Exhibit 3.2 to the Company's Form 8-K filed November 4, 2008 (File No. 000-23186).
4.7	Specimen Certificate for Registrant's Common Stock. Incorporated by reference to Exhibit 4.7 to the Company's Form S-3 filed November 28, 2008 (File No. 333-155783).
4.8*	Certificate of Designation of Preferred Stock.
4.9*	Form of Warrant Agreement (including form of Warrant).
4.10*	Form of Deposit Agreement with respect to Depositary Shares (including form of Depositary Receipt).
4.11*	Form of Stock Purchase Contract (including form of Stock Purchase Certificate).
4.12*	Form of Unit Agreement (including form of Unit Certificate).
5.1	Opinion of Gibson, Dunn & Crutcher LLP.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
23.2	Consent of Gibson, Dunn & Crutcher LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included on the signature page of this Registration Statement).

* To be filed by amendment hereto or pursuant to a Current Report on Form 8-K to be incorporated herein by reference.

GIBSON DUNN

Gibson, Dunn & Crutcher LLP

200 Park Avenue
New York, NY 10166-0193
Tel 212.351.4000

Client: 12412-00001

February 26, 2016

BioCryst Pharmaceuticals, Inc.
4505 Emperor Blvd., Suite 200
Durham, North Carolina 27703Re: BioCryst Pharmaceuticals, Inc.
Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to BioCryst Pharmaceuticals, Inc., a Delaware corporation (the “Company”), in connection with the preparation and filing with the Securities and Exchange Commission (the “Commission”) of a Post-Effective Amendment, dated as of the date hereof, to the Registration Statement on Form S-3, File No. 333-202466 (as amended, the “Registration Statement”), filed under the Securities Act of 1933, as amended (the “Securities Act”) on March 3, 2015, relating to the registration under the Securities Act and the proposed issuance and sale from time to time pursuant to Rule 415 under the Securities Act, together or separately and in one or more series (if applicable) of:

- (i) shares of the Company’s common stock, par value \$0.01 per share (the “Common Stock”);
- (ii) shares of the Company’s preferred stock, par value \$0.01 per share (the “Preferred Stock”);
- (iii) depositary shares each representing a fraction of a share of a particular series of Preferred Stock (the “Depositary Shares”);
- (iv) contracts for the purchase or sale of Common Stock, Preferred Stock or Depositary Shares (the “Purchase Contracts”);
- (v) warrants for the purchase of Common Stock, Preferred Stock, Depositary Shares or any combination thereof (the “Warrants”); and
- (vi) units of the Company comprised of any combination of Common Stock, Preferred Stock, Depositary Shares, Purchase Contracts or Warrants (the “Units”).

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The Common Stock, Preferred Stock, Depositary Shares, Purchase Contracts, Warrants and Units are collectively referred to herein as the “Securities.”

In arriving at the opinions expressed below, we have examined originals, or copies certified or otherwise identified to our satisfaction as being true and complete copies of the originals, of the specimen Common Stock certificate and such other documents, corporate records, certificates of officers of the Company and of public officials and other instruments as we have deemed necessary or advisable to enable us to render these opinions. In our examination, we have assumed the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies. As to any facts material to these opinions, we have relied to the extent we deemed appropriate and without independent investigation upon statements and representations of officers and other representatives of the Company and others.

We have assumed without independent investigation that:

- (i) at the time any Securities are sold pursuant to the Registration Statement (the “Relevant Time”), the Registration Statement and any supplements and amendments thereto (including post-effective amendments) will be effective and will comply with all applicable laws;
 - (ii) at the Relevant Time, a prospectus supplement will have been prepared and filed with the Commission describing the Securities offered thereby and all related documentation and will comply with all applicable laws;
 - (iii) all Securities will be issued and sold in the manner stated in the Registration Statement and the applicable prospectus supplement;
 - (iv) at the Relevant Time, all corporate or other action required to be taken by the Company to duly authorize each proposed issuance of Securities and any related documentation (including (a) the due reservation of any shares of Common Stock or Preferred Stock for issuance upon exercise, conversion or exchange of any Securities for Common Stock or Preferred Stock (a “Convertible Security”), and (b) the execution (in the case of certificated Securities), delivery and performance of the Securities and any related documentation referred to in paragraphs 1 through 6 below) shall have been duly completed and shall remain in full force and effect;
 - (v) upon issuance of any Common Stock or Preferred Stock, including upon exercise, conversion or exchange of any Convertible Security, the total number of shares of Common Stock or Preferred Stock issued and outstanding will not exceed the total number of shares of Common Stock or Preferred Stock, as applicable, that the Company is then authorized to issue under its certificate of incorporation and other relevant documents;
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(vi) at the Relevant Time, a definitive purchase, underwriting or similar agreement and any other necessary agreement with respect to any Securities offered or issued will have been duly authorized by all necessary corporate or other action of the Company and duly executed and delivered by the Company and the other parties thereto.

Based on the foregoing and in reliance thereon, and subject to the assumptions, exceptions, qualifications and limitations set forth herein, we are of the opinion that:

1. With respect to any shares of Preferred Stock, when:
 - a. the certificate of designations relating to such Preferred Stock (the “Certificate of Designations”) has been duly executed and filed with the Office of the Secretary of State of the State of Delaware,
 - b. such shares have been duly executed (in the case of certificated shares) and delivered either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement and for the consideration therefor provided for therein or (ii) upon exercise, conversion or exchange of any Convertible Security and for any additional consideration specified in such Convertible Security or the instrument governing such Convertible Security providing for such conversion or exercise, which consideration (including any consideration paid for such Convertible Security), on a per-share basis, shall in either event not be less than the par value of the Preferred Stock, and
 - c. any such Convertible Security was previously validly issued and is fully paid and non-assessable (in the case of an equity Security) or is a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms,such shares of Preferred Stock will be validly issued, fully paid and non-assessable.
 2. With respect to Depositary Shares, when:
 - a. a deposit agreement relating to such Depositary Shares (“Deposit Agreement”) has been duly executed and delivered by the Company and the depositary appointed by the Company,
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- b. the terms of the Depositary Shares have been established in accordance with the Deposit Agreement, and
- c. the depositary receipts representing the Depositary Shares have been duly executed and countersigned (in the case of certificated Depositary Shares), registered and delivered in accordance with the related Deposit Agreement and the applicable definitive purchase, underwriting or similar agreement for the consideration provided therein,

the depositary receipts evidencing the Depositary Shares will be legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

3. With respect to shares of Common Stock, when:

- a. such shares of Common Stock have been duly executed (in the case of certificated shares) and delivered either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement for the consideration provided for therein, or (ii) upon conversion or exercise of any Convertible Security, in accordance with the terms of such Convertible Security or the instrument governing such Convertible Security providing for such conversion or exercise, and for any additional consideration specified therein, which consideration (including any consideration paid for such Convertible Security), on a per-share basis, shall in either event not be less than the par value of the Common Stock, and
- b. any such Convertible Security was previously validly issued and is fully paid and non-assessable (in the case of an equity Security) or is a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms,

such shares of Common Stock will be validly issued, fully paid and non-assessable.

4. With respect to any Purchase Contracts, when:

- a. the related purchase contract agreement ("Purchase Contract Agreement"), if any, has been duly executed by the Company and each other party thereto,



- b. the terms of the Purchase Contracts have been established in accordance with the Purchase Contract Agreement, if any, or the applicable definitive purchase, underwriting or similar agreement,
- c. the terms of any collateral or security arrangements relating to such Purchase Contracts have been established and the agreements thereto have been validly executed and delivered by each of the parties thereto and any collateral has been deposited with the collateral agent, if applicable, in accordance with such arrangements, and
- d. such Purchase Contracts have been executed (in the case of certificated Purchase Contracts) and delivered in accordance with the Purchase Contract Agreement, if any, and the applicable definitive purchase, underwriting or similar agreement for the consideration provided for therein,

such Purchase Contracts will be legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

5. With respect to any Warrants, when:

- a. the warrant agreement relating to such Warrants (the "Warrant Agreement"), if any, has been duly executed and delivered by the Company and each other party thereto,
- b. the terms of the Warrants have been established in accordance with the Warrant Agreement, if any, and the applicable definitive purchase, underwriting or similar agreement, and
- c. the Warrants have been duly executed (in the case of certificated Warrants) and delivered in accordance with the Warrant Agreement, if any, and the applicable definitive purchase, underwriting or similar agreement for the consideration provided for therein,

such Warrants will be legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

6. With respect to any Units, when:

- a. the unit agreement relating to the Units (the "Unit Agreement"), if any, has been duly executed and delivered by the Company and each other party thereto,
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- b. the terms of the Units have been duly established in accordance with the Unit Agreement, if any, and the applicable definitive purchase, underwriting or similar agreement, and
- c. the Units have been duly executed (in the case of certificated Units) and delivered in accordance with the Unit Agreement, if any, and the applicable definitive purchase, underwriting or similar agreement for the consideration provided for therein,

the Units will be legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

The opinions expressed above are subject to the following exceptions, qualifications, limitations and assumptions:

A. We render no opinion herein as to matters involving the laws of any jurisdiction other than the State of New York, the United States of America and, for purposes of paragraphs 1 and 3 above, the Delaware General Corporation Law. This opinion is limited to the effect of the current state of the laws of the State of New York, the Delaware General Corporation Law, the United States of America and the facts as they currently exist. We assume no obligation to revise or supplement this opinion in the event of future changes in such laws or the interpretations thereof or such facts.

B. The opinions above with respect to the depositary receipts representing the Depositary Shares, the Deposit Agreement, the Purchase Contracts, any Purchase Contract Agreement, the Warrants, the Warrant Agreement, the Units and the Unit Agreement (collectively, the "Documents") are each subject to (i) the effect of any bankruptcy, insolvency, reorganization, moratorium, arrangement or similar laws affecting the rights and remedies of creditors generally, including without limitation the effect of statutory or other laws regarding fraudulent transfers or preferential transfers, (ii) general principles of equity, including without limitation concepts of materiality, reasonableness, good faith and fair dealing and the possible unavailability of specific performance, injunctive relief or other equitable remedies regardless of whether enforceability is considered in a proceeding in equity or at law and (iii) the provisions of the sixth article of the Company's Third Restated Certificate of Incorporation.

C. We express no opinion regarding the effectiveness of (i) any waiver of stay, extension or usury laws and (ii) provisions relating to indemnification, exculpation or contribution, to the extent such provisions may be held unenforceable as contrary to public policy or federal or state securities laws.

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BioCryst Pharmaceuticals, Inc.

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D. To the extent relevant to our opinions in paragraphs 2, 4, 5 and 6 and not covered by our opinions in paragraphs 1 or 3, we have assumed that any securities, currencies or commodities underlying, comprising or issuable upon exchange, conversion or exercise of any Depositary Shares, Purchase Contracts, Warrants, or Units are validly issued, fully paid and non-assessable (in the case of an equity security) or a legal, valid and binding obligation of the issuer thereof, enforceable against such issuer in accordance with its terms.

You have informed us that you intend to issue Securities from time to time on a delayed or continuous basis, and we understand that prior to issuing any Securities pursuant to the Registration Statement (i) you will advise us in writing of the terms thereof, and (ii) you will afford us an opportunity to (x) review the operative documents pursuant to which such Securities are to be issued or sold (including the applicable offering documents), and (y) file such supplement or amendment to this opinion (if any) as we may reasonably consider necessary or appropriate.

We consent to the filing of this opinion as an exhibit to the Registration Statement, and we further consent to the use of our name under the caption "Legal Matters" in the Registration Statement and the prospectus that forms a part thereof. In giving these consents, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Gibson, Dunn & Crutcher LLP

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption “Experts” in this Post-Effective Amendment No. 1 to the Registration Statement (Form S-3 No. 333-202466) and related Prospectus of BioCryst Pharmaceuticals, Inc. for the registration of common stock, preferred stock, depositary shares, stock purchase contracts, warrants, and units and to the incorporation by reference therein of our reports dated February 26, 2016, with respect to the consolidated financial statements of BioCryst Pharmaceuticals, Inc. and the effectiveness of internal control over financial reporting of BioCryst Pharmaceuticals, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2015, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Raleigh, North Carolina

February 26, 2016