

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

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

BIOCRYST PHARMACEUTICALS, INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware
(State of Incorporation)

62-1413174
(I.R.S. Employer Identification No.)

2190 Parkway Lake Drive
Birmingham, Alabama 35244

(Address of Principal Executive Offices)

1991 Stock Option Plan
(Amended and Restated Effective March 8, 2004)

(Full Title of the Plans)

Charles E. Bugg, Ph.D.
Chairman and Chief Executive Officer
BioCryst Pharmaceuticals, Inc.
2190 Parkway Lake Drive
Birmingham, Alabama 35244
(205) 444-4600

(Name, Address and Telephone Number, Including Area Code, of Agent for Service)

Copies to:
Richard R. Plumridge, Esq.
Jennifer A. D'Alessandro, Esq.
Holme Roberts & Owen LLP
1700 Lincoln Street, Suite 4100
Denver, CO 80203
(303) 861-7000

CALCULATION OF REGISTRATION FEE

| Title of Securities to be Registered | Amount to be Registered (1) | Proposed Maximum Offering Price Per Share (3) | Proposed Maximum Aggregate Offering Price | Amount of Registration Fee (4) |
|--------------------------------------|-----------------------------|---|---|--------------------------------|
| Common Stock, \$0.01 par value | 1,000,000(2) | \$5.96 | \$5,960,000 | \$755.13 |

(1) This Registration Statement shall also cover any additional shares of Common Stock which become issuable by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the number of the Registrant's outstanding shares of Common Stock.

(2) Increase in authorized number of shares underlying the 1991 Stock Option Plan.

(3) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(h) under the Securities Act of 1933, as amended, based upon the average of the high and low prices of the Registrant's Common Stock on November 4, 2004, as reported on The Nasdaq National Market.

- (4) The registration fee for the securities registered hereby was calculated by multiplying the proposed maximum offering price by .0001267 in accordance with Section 6(b) of the Securities Act and the related rules.
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FORM S-8 PURSUANT TO GENERAL INSTRUCTION E

This Form S-8 is filed with the Securities and Exchange Commission (the "Commission") pursuant to General Instruction E to Form S-8. The contents of the earlier Registration Statements on Form S-8, Registration Nos. 333-39484 and 333-30751 are hereby incorporated by reference into this Form S-8. All capitalized terms not defined herein shall have the same meaning as set forth in the Form S-8.

EXHIBITS

| <u>Exhibit Number</u> | <u>Description</u> |
|---------------------------|--|
| 5.1 | Opinion of Holme Roberts & Owen LLP (filed herewith). |
| 10.1 | Amended and Restated Stock Option Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2004 (File No. 000-23186)). |
| 23.1 | Consent of Ernst & Young, Independent Auditors. (filed herewith) |
| 23.2 | Consent of Holme Roberts & Owen LLP (included in Exhibit 5.1). |
| 24.1 | Power of Attorney (included on signature page). |

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Birmingham, State of Alabama, on the 10th day of November, 2004.

BIOCRYST PHARMACEUTICALS, INC.

By: /s/ Charles E. Bugg, Ph.D.
Charles E. Bugg, Ph.D.
Chairman and Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned officers and directors of BIOCRYST PHARMACEUTICALS, INC. hereby constitute and appoint Charles E. Bugg, Ph.D. and Michael A. Darwin, and each of them, as our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for us and in our name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as we might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

| Signature | Title | Date |
|---|---|-------------------|
| /s/ Charles E. Bugg, Ph.D. Charles E. Bugg, Ph.D | Chairman, Chief Executive Officer and Director (Principal Executive Officer) | November 10, 2004 |
| /s/ J. Claude Bennett, M.D. J. Claude Bennett, M.D | President, Chief Operating Officer, Medical Director and Director | November 10, 2004 |
| /s/ Michael A. Darwin Michael A. Darwin | Chief Financial Officer, Secretary and Treasurer (Principal Financial and Accounting Officer) | November 10, 2004 |
| /s/ William W. Featheringill William W. Featheringill | Director | November 10, 2004 |
| /s/ Carl L. Gordon, CFA, Ph.D. Carl L. Gordon, CFA, Ph.D | Director | November 10, 2004 |
| /s/ John L. Higgins John L. Higgins | Director | November 10, 2004 |
| /s/ Zola P. Horovitz, Ph.D. Zola P. Horovitz, Ph.D | Director | November 10, 2004 |
| /s/ Joseph H. Sherrill, Jr Joseph H. Sherrill, Jr | Director | November 10, 2004 |
| /s/ William M. Spencer, III William M. Spencer, III | Director | November 10, 2004 |

/s/ Randolph C. Steer, M.D., Ph.D
Randolph C. Steer, M.D., Ph.D

Director

November 10, 2004

[LETTERHEAD OF HOLME ROBERTS & OWEN LLP]

November 10, 2004

BioCryst Pharmaceuticals, Inc.
2190 Parkway Lake Drive Birmingham,
Alabama 35244

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the registration by BioCryst Pharmaceuticals, Inc., a Delaware corporation (the "Company"), of 1,000,000 shares of its common stock (the "Shares"), pursuant to a registration statement on Form S-8 of the Company, being filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Act") concurrently herewith (the "Registration Statement").

This opinion is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Act.

In connection with this opinion, we have examined the Company's Certificate of Incorporation and Bylaws, and the originals or copies certified to our satisfaction of certain corporate records and proceedings of the Company, including actions taken by the Company's Board of Directors in respect of the authorization and issuance of the Shares, and such other certificates, instruments and documents as we deemed appropriate to enable us to render the opinion expressed below.

In all such examinations, we have assumed without independent investigation or inquiry the legal capacity of all natural persons executing documents, the genuineness of all signatures on original or certified copies, the authenticity of all original or certified copies and the conformity to original or certified documents of all copies submitted to us as conformed or reproduction copies. We have relied as to factual matters upon and have assumed the accuracy of, the statements made in the certificates of officers of the Company delivered to us and the certificates and other statements or information of or from public officials and officers and representatives of the Company.

Based upon the foregoing and the limitations, qualifications, exceptions and assumptions set forth herein, we are of the opinion that the Shares have been duly authorized and, when issued and sold as contemplated by the Registration Statement and in accordance with the terms of the applicable employee benefit plans, will be validly issued, fully paid and non-assessable shares.

The opinions expressed herein are limited to the laws of the State of Colorado and the General Corporation Law of the State of Delaware (including the statutory provisions and all applicable provisions of the Delaware Constitution and reported judicial decisions interpreting these laws).

We hereby consent to the reference to our firm under the caption "Legal Matters" in the prospectus included in the Registration Statement, and to the filing of this opinion as an Exhibit to the aforesaid Registration Statement. In giving this consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission promulgated thereunder.

We do not express an opinion on any matters other than those expressly set forth in this letter. The opinions expressed herein are rendered as of the date hereof. We do not undertake to advise you of matters that may come to our attention subsequent to the date hereof and that may affect the opinions expressed herein, including without limitation, future changes in applicable law. This letter is our opinion as to certain legal conclusions as specifically set forth herein and is not and should not be deemed to be a representation or opinion as to any factual matters.

Very truly yours,

/s/ HOLME ROBERTS & OWEN LLP

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm in the Registration Statement (Form S-8 No. 333-00000) pertaining to the 1991 Stock Option Plan (Amended and Restated Effective March 8, 2004) of BioCryst Pharmaceuticals, Inc. and to the incorporation by reference therein of our report dated January 23, 2004, except for Note 10, as to which the date is February 18, 2004, with respect to the financial statements included in its Annual Report (Form 10-K) for the year ended December 31, 2003, filed with the Securities and Exchange Commission.

/s/ ERNST & YOUNG

Birmingham, Alabama
November 8, 2004
