SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): May 29, 2003

MACROPORE BIOSURGERY, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation)

000-32501 (Commission File No.)

33-0827593 (I.R.S. Employer Identification No.)

6740 Top Gun Street San Diego, California 92121 (Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (858) 458-0900

Item 5. Other Events.

On May 29, 2003, MacroPore Biosurgery, Inc. (the "Corporation") issued a press release relating to the adoption by the Board of Directors (the "Board") of a Stockholder Rights Plan. The May 29, 2003 press release of the Corporation is attached hereto as Exhibit 99.1.

On May 28, 2003, the Board declared a dividend distribution of one preferred share purchase right (a "Right") for each outstanding share of Common Stock, par value \$0.001 per share (the "Common Stock"), of the Corporation. The dividend is payable to the stockholders of record on June 10, 2003 (the "Record Date") with respect to shares of Common Stock issued thereafter until the Distribution Date (as defined below) and, in certain circumstances, with respect to shares of Common Stock issued after the Distribution Date. Except as set forth below, each Right, when it becomes exercisable, entitles the registered holder to purchase from the Corporation one one-thousandth (1/1000th) of a share of Series RP Preferred Stock of the Corporation, \$0.001 par value per share (the "Preferred Stock"), at a price of \$25.00 per one one-thousandth (1/1000th) of a share of Preferred Stock (the "Purchase Price"), subject to adjustment. The description and terms of the Rights are set forth in a Rights Agreement (the "Rights Agreement") between the Corporation and Computershare Trust Company, Inc., as Rights Agent (the "Rights Agent"), dated as of May 29, 2003.

Initially, the Rights will be attached to certificates representing shares of Common Stock then outstanding, and no separate certificates representing the Rights ("Right Certificates") will be distributed. The Rights will separate from the Common Stock upon the earlier to occur of (i) a person or group of affiliated or associated persons having acquired, without the prior approval of the Board, beneficial ownership of 15% or more of the outstanding shares of Common Stock or (ii) 10 days, or such later date as the Board may determine, following the commencement of or announcement of an intention to make, a tender offer or exchange offer the consummation of which would result in a person or group of affiliated or associated persons becoming an Acquiring Person (as hereinafter defined) except pursuant to a Permitted Offer (as hereinafter defined) (the "Distribution Date"). A person or group whose acquisitions of shares of Common Stock cause a Distribution Date pursuant to clause (i) above is an "Acquiring Person," with certain exceptions as set forth in the Rights Agreement. The date that a person or group is first publicly announced to have become such by the Corporation or such Acquiring Person is the "Shares Acquisition Date."

The Rights Agreement provides that, until the Distribution Date, the Rights will be transferred with and only with the associated shares of Common Stock. Until the Distribution Date (or earlier redemption or expiration of the Rights), new Common Stock certificates issued after the Record Date upon transfer or new issuance of shares of Common Stock will contain a notation incorporating the Rights Agreement by reference. Until the Distribution Date (or earlier redemption or expiration of the Rights), the surrender for transfer of any certificates for shares of Common Stock outstanding as of the Record Date, even without attaching thereto such notation or a copy of the Summary of Rights attached to the Rights Agreement as Exhibit C, will also constitute the transfer of the Rights associated with the shares of Common Stock represented by such certificate. As soon as practicable following the Distribution Date, Right Certificates will be mailed to the holders of record of shares of the Common Stock as of the Close of Business (as defined in the Rights Agreement) on the Distribution Date (and to each initial record holder of certain shares of Common Stock issued after the Distribution Date), and such separate Right Certificates alone will evidence the Rights.

The Rights are not exercisable until the Distribution Date and will expire at the close of business on May 29, 2013, unless earlier redeemed by the Corporation as described below.

In the event that any person becomes an Acquiring Person (except pursuant to a tender or exchange offer which is for all outstanding shares of Common Stock at a price and on terms which a majority of certain members of the Board determines to be adequate and in the best interests of the Corporation, its stockholders and other relevant constituencies, other than such Acquiring Person, its

affiliates and associates (a "Permitted Offer")), each holder of a Right will thereafter have the right (the "Flip-In Right") to receive upon exercise the number of shares of Common Stock (or, in certain circumstances, of one one-thousandths (1/1000ths) of a share of Preferred Stock or other securities of the Corporation) having a value (immediately prior to such triggering event) equal to two times the then-applicable Purchase Price of the Right. Notwithstanding the foregoing, following the occurrence of the event described above, all Rights that are, or (under certain circumstances specified in the Rights Agreement) were, beneficially owned by any Acquiring Person or any affiliate or associate thereof will be null and void. The Board has the option, at any time after any person becomes an Acquiring Person, to exchange all or part of the then-exercisable Rights (excluding those that have become void, as described in the immediately preceding sentence) for shares of Common Stock, at an exchange ratio determined by dividing the then-applicable Purchase Price by the then-current market price per share of Common Stock as determined in accordance with the Rights Agreement. However, this option generally terminates if any person becomes the beneficial owner of 50% or more of the Common Stock.

In the event that, at any time following the Shares Acquisition Date, (i) the Corporation is acquired in a merger or other business combination transaction in which the holders of all of the outstanding shares of Common Stock immediately prior to the consummation of the transaction are not the holders of all of the surviving corporation's voting power, or (ii) more than 50% of the Corporation's assets or earning power is sold or transferred, in either case with or to (x) an Acquiring Person or any affiliate or associate thereof or (y) any other person in which such Acquiring Person, affiliate or associate has an interest or any person acting on behalf of or in concert with such Acquiring Person, affiliate or associate, or (z) if, in such transaction, all holders of shares of Common Stock are not treated alike, any other person, then each holder of a Right (except Rights which previously have been voided as set forth above) shall thereafter have the right (the "Flip-Over Right") to receive, upon exercise, common shares of the acquiring company (or, in certain circumstances, its parent) having a value equal to two times the exercise price of the Right. The holder of a Right will continue to have the Flip-Over Right whether or not such holder exercises or surrenders the Flip-In Right.

The Purchase Price payable, and the number of shares of Preferred Stock, shares of Common Stock or other securities issuable, upon exercise of the Rights are subject to adjustment from time to time to prevent dilution (i) in the event of a stock dividend on, or a subdivision, combination or reclassification of, the Preferred Stock, (ii) upon the grant to holders of shares of the Preferred Stock of certain rights or warrants to subscribe for or purchase shares of Preferred Stock at a price, or securities convertible into Preferred Stock with a conversion price, less than the then current market price of the Preferred Stock or (iii) upon the distribution to holders of shares of the Preferred Stock of evidences of indebtedness or assets (excluding regular quarterly cash dividends) or of subscription rights or warrants (other than those referred to above).

The number of outstanding Rights and the number of one one-thousandths (1/1000ths) of a share of Preferred Stock issuable upon exercise of each Right are also subject to adjustment in the event of a stock split of the Common Stock or a stock dividend on the Common Stock payable in Common Stock or subdivisions, consolidations or combinations of the Common Stock occurring, in any such case, prior to the Distribution Date.

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments require an adjustment of at least 1% in such Purchase Price.

At any time prior to the earlier to occur of (i) a person becoming an Acquiring Person or (ii) the expiration of the Rights, and under certain other circumstances, the Corporation may redeem the Rights in whole, but not in part, at a price (payable in cash or, at the Corporation's election, in Common Stock) of \$0.001 per Right (the "Redemption Price"), which redemption shall be effective upon the action of the Board. Additionally, following the Shares Acquisition Date, the Corporation

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may redeem the then outstanding Rights in whole, but not in part, at the Redemption Price, provided that such redemption is in connection with a merger or other business combination transaction or series of transactions involving the Corporation in which all holders of shares of Common Stock are treated alike but not involving an Acquiring Person or its affiliates or associates.

Other than those provisions relating to the rights, duties and obligations of the Rights Agent and certain principal economic terms of the Rights, all of the provisions of the Rights Agreement may be amended by the Board prior to the Distribution Date. After the Distribution Date, the provisions of the Rights Agreement may be amended by the Board in order to cure any ambiguity, defect or inconsistency, to make changes that do not adversely affect the interests of holders of Rights (excluding the interests of any Acquiring Person), or, subject to certain limitations, to shorten or lengthen any time period under the Rights Agreement.

Until a Right is exercised, the holder thereof, as such, will have no rights as a stockholder of the Corporation, including, without limitation, the right to vote or to receive dividends. While the distribution of the Rights will not be taxable to stockholders of the Corporation, stockholders may, depending upon the circumstances, recognize taxable income should the Rights become exercisable or upon the occurrence of certain events thereafter.

This summary description of the Rights does not purport to be complete and is qualified in its entirety by reference to the Rights Agreement, which is hereby incorporated herein by reference.

As of May 28, 2003, there were 14,546,099 shares of Common Stock outstanding. Each share of Common Stock outstanding on the Record Date will receive one Right. As long as the Rights are attached to the shares of Common Stock, the Corporation will issue one Right with each new share of Common Stock so that all such shares will have attached rights.

The Rights have certain anti-takeover effects. The Rights will cause substantial dilution to a person or group that attempts to acquire the Corporation without conditioning the offer on the Rights being redeemed or a substantial number of Rights being acquired. However, the Rights should not interfere with any tender offer or merger approved by the Corporation (other than with an Acquiring Person) because the Rights do not become exercisable in the event of a Permitted Offer or other acquisition exempted by the Board.

Attached hereto as Exhibit 4.1 and incorporated herein by reference are copies of the Rights Agreement and the exhibits thereto, as follows: Exhibit A—Form of Certificate of Designation, Preferences and Rights of Series RP Preferred Stock of MacroPore Biosurgery, Inc.; Exhibit B—Form of Right Certificate; and Exhibit C—Summary of Rights to Purchase Series RP Preferred Stock. The foregoing description of the Rights is qualified in its entirety by reference to the Rights Agreement and such exhibits thereto.

Item 7. Exhibits.

- 4.1 Rights Agreement, dated as of May 29, 2003, between MacroPore Biosurgery, Inc. and Computershare Trust Company, Inc. as Rights Agent, which includes: as Exhibit A thereto, the Form of Certificate of Designation, Preferences and Rights of Series RP Preferred Stock of MacroPore Biosurgery, Inc.; Exhibit B thereto, the Form of Right Certificate; and, as Exhibit C thereto, the Summary of Rights to Purchase Series RP Preferred Stock.*
- 99.1 Press Release issued by the Corporation on May 29, 2003
- * Incorporated by reference to the Corporation's Registration Statement on Form 8-A filed with the Securities and Exchange Commission on May 30, 2003.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereto duly authorized.

MACROPORE BIOSURGERY, INC.

By: /s/ CHRISTOPHER J. CALHOUN

Name: Christopher J. Calhoun

Title: President / Chief Executive Officer

Date: May 29, 2003

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EXHIBIT INDEX

Exhibit	Description
4.1	Rights Agreement, dated as of May 29, 2003, between MacroPore Biosurgery, Inc. and Computershare Trust Company, Inc. as Rights Agent, which includes: as Exhibit A thereto, the Form of Certificate of Designation, Preferences and Rights of Series RP Preferred Stock of MacroPore Biosurgery, Inc.; as Exhibit B thereto, the Form of Right Certificate; and, as Exhibit C thereto, the Summary of Rights to Purchase Series RP Preferred Stock.*
99.1	Press Release issued by the Corporation on May 29, 2003.

* Incorporated by reference to the Corporation's Registration Statement on Form 8-A filed with the Securities and Exchange Commission on May 30, 2003.

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Item 5. Other Events.

Item 7. Exhibits .

SIGNATURE EXHIBIT INDEX

Exhibit 99.1

PRESS RELEASE

MACROPORE BIOSURGERY, INC. ADOPTS STOCKHOLDER RIGHTS PLAN

San Diego, CA / Königstein, Ts—May 29, 2003. The Board of Directors of MacroPore Biosurgery, Inc. (Frankfurt Stock Exchange: XMP) has adopted a Stockholder Rights Plan to assist its stockholders in realizing fair value and equal treatment in the event of any attempted takeover of the Company and to protect the Company and its stockholders against coercive takeover tactics.

Under the Stockholder Rights Plan, a dividend of one Preferred Stock Purchase Right is being declared for each share of Common Stock outstanding at the close of business on June 10, 2003. No separate certificates evidencing the Rights will be issued unless and until they become exercisable.

The Rights generally will not become exercisable until a person or group acquires 15% or more of the Common Stock of the Company in a transaction that is not approved in advance by the Board of Directors. In that event, each Right will entitle the holder, other than the unapproved acquiror and its affiliates, to buy Common Stock of the Company at 50% of its market value for the Right's then current exercise price (initially \$25.00, subject to adjustment). In addition, if the Rights were triggered by such a non-approved acquisition and the Company were thereafter to be acquired in a merger in which all stockholders were not treated alike, stockholders with unexercised Rights, other than the unapproved acquiror and its affiliates, would be entitled to purchase common stock of the acquiror with a value of twice the exercise price of the Rights.

The Company's Board of Directors may redeem the Rights for a nominal amount at any time prior to an event that causes the Rights to become exercisable. The Rights will expire on May 29, 2013.

MacroPore Biosurgery, Inc. is a leader in the design, development, and production of bioresorbable polymer implants for use in a variety of surgical applications and is pioneering advancement of regenerative medicine for surgical therapies using adult stem cells derived from adipose (fat tissue). Some products designed for use in spine, neurosurgical, and musculoskeletal surgeries are distributed by Medtronic, while other products designed for soft tissue are distributed through our direct US sales force and an international distribution network. MacroPore Biosurgery is traded on the Frankfurt Stock Exchange in Germany under the symbol "XMP'. For further information please visit the web site www.macropore.com.

Edited and published by:

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Exhibit 99.1

PRESS RELEASE