



SHEET

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Commissioner for Patents: Please record the attached original document(s) or copy(ies).

1. Name of conveying party(ies): t. Breeders, Inc. Additional name(s) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		2. Name and address of receiving party(ies): VIACELL, INC. (Principal Place of Business) One Innovation Drive Worcester, MA 01605 (Registered Office): 1209 Orange Street Wilmington County of New Castle, Delaware 19801 Additional names/addresses attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3. Nature of conveyance: <input type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input checked="" type="checkbox"/> Change of Name <input type="checkbox"/> Other:) Execution Date: 4/11/2000		4. Application number(s) or patent number(s): If this document is being filed with a new application, the execution date of the application is: A. Patent Application No(s): B. Patent No(s): 5,925,567 Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Name/address of party to whom correspondence concerning document should be mailed: TIMOTHY A. FRENCH Fish & Richardson P.C. 225 Franklin Street Boston, MA 02110-2804		6. Total number of applications/patents involved: 1 7. Total fee (37 CFR §3.41): \$40 <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to charge Deposit Account. 8. Deposit Account No.: 06-1050 Please apply any additional charges, or any credits, to our Deposit Account No. 06-1050.	
DO NOT USE THIS SPACE			
9. Statement and Signature: <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i>			
Timothy A. French Reg. No. 30,175 Name of Person Signing		Signature	Date July 29, 2003
Total number of pages including coversheet, attachments and document: 19			

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CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Mail Stop Assignment Recordation Services, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

July 29, 2003
Date of Deposit
Dawn M. Corey
Signature

Dawn M. Corey
Typed Name of Person Signing Certificate

Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE RESTATED CERTIFICATE OF "T. BREEDERS, INC.", CHANGING ITS NAME FROM "T. BREEDERS, INC." TO "VIACELL, INC.", FILED IN THIS OFFICE ON THE ELEVENTH DAY OF APRIL, A.D. 2000, AT 1 O'CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



A handwritten signature in cursive script, reading "Edward J. Freel".

Edward J. Freel, Secretary of State

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AUTHENTICATION: 0374335

DATE: 04-11-00

PATENT
REEL: 014327 FRAME: 0175

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION

OF

t. BREEDERS, INC.

Pursuant to Section 242 and 245 of the General Corporation Law of the State of Delaware

The undersigned, for the purpose of amending, restating and integrating the Certificate of Incorporation of t.Breeders, Inc. (the "Corporation") as amended and supplemented heretofore under the laws of the State of Delaware hereby certifies as follows:

1. The corporation was incorporated in the State of Delaware on September 2, 1994 under the name "t.Breeders, Inc."
2. Pursuant to a unanimous written consent of the Board of Directors of the Corporation, a resolution was duly adopted pursuant to Section 242 and 245 of the General Corporation Law of the State of Delaware, setting forth this Amended and Restated Certificate of Incorporation and declaring said Amended and Restated Certificate to be advisable. The stockholders of the Corporation duly approved said proposed Amended and Restated Certificate by written consent in accordance with Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware, and written notice of such consent has been given to all stockholders who have not consented in writing to said Amended and Restated Certificate.
3. This Amended and Restated Certificate of Incorporation of t.Breeders, Inc. amends and restates the Certificate of Incorporation, as amended, in its entirety as follows:

FIRST. The name of the corporation is Viacell, Inc. (the "Corporation")

SECOND. The address of the Corporation's registered office in the State of Delaware is 1209 Orange Street, Wilmington, County of New Castle, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

THIRD. The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of Delaware.

FOURTH. The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 20,000,000 shares of Common Stock, \$.01 par value per share ("Common Stock") and (ii) 12,000,000 shares of Preferred Stock, \$.01 par value per share ("Preferred Stock"), of which 100,000 shares shall be designated "Series A Convertible Preferred Stock" (the "Series A Preferred Stock"), 82,857 shares shall be designated "Series B Convertible Preferred Stock" (the "Series B Preferred Stock"), 919,220 shares shall be designated "Series C Convertible Preferred Stock" (the "Series C Preferred Stock"), 1,500,000 shares shall be designated "Series D Convertible Preferred Stock" (the "Series D Preferred Stock"), 1,983,334 shares shall be designated "Series E Convertible Preferred Stock" (the "Series E Preferred Stock"), 2,666,666 shares shall be designated "Series F Convertible Preferred Stock" (the "Series

F Preferred Stock”), and 3,666,667 shares shall be designated “Series G Convertible Preferred Stock” (the “Series G Preferred Stock”). The term “Designated Preferred Stock” used without reference to the Series A Preferred Stock, the Series B Preferred Stock, the Series C Preferred Stock, the Series D Preferred Stock, the Series E Preferred Stock, the Series F Preferred Stock, and the Series G Preferred Stock means all of the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock, the Series F Preferred Stock, and the Series G Preferred Stock share for share alike without distinction as to series except as otherwise expressly provided or as the context otherwise requires.

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK.

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights of the holders of the Preferred Stock of any series as may be designated by the Board of Directors upon any issuance of the Preferred Stock of any series.

2. Voting. The holders of the Common Stock are entitled to one vote for each share held at all meetings of stockholders (and written actions in lieu of meetings). There shall be no cumulative voting.

The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of Delaware.

3. Dividends. Dividends may be declared and paid on the Common Stock from funds lawfully available therefor as and when determined by the Board of Directors and subject to any preferential dividend rights of any then outstanding Preferred Stock.

4. Liquidation. Upon the dissolution or liquidation of the Corporation, whether voluntary or involuntary, holders of Common Stock will be entitled to receive all assets of the Corporation available for distribution to its stockholders, subject to any preferential rights of any then outstanding Preferred Stock.

B. PREFERRED STOCK.

Preferred Stock may be issued from time to time in one or more series, each of such series to have such terms as stated or expressed herein and in the resolution or resolutions providing for the issue of such series adopted by the Board of Directors of the Corporation as hereinafter provided. Any shares of Preferred Stock which may be redeemed, purchased or acquired by the Corporation may be reissued except as otherwise provided by law. Different series of Preferred Stock shall not be construed to constitute different classes of shares for the purposes of voting by classes unless expressly provided.

Authority is hereby expressly granted to the Board of Directors from time to time to issue the Preferred Stock in one or more series, and in connection with the creation of any such series, by resolution or resolutions providing for the issue of the shares thereof, 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 thereof, dividend rights, special voting rights, conversion rights, redemption privileges and liquidation preferences, as shall be stated and expressed in such resolutions, all to the full extent now or hereafter permitted by the General Corporation Law of Delaware. Without limiting the generality of the foregoing, the resolutions providing for issuance of any series of Preferred Stock may provide that such Series shall rank equally or be junior to outstanding Preferred Stock of any other Series to the extent permitted by law. Except as otherwise specifically provided in this Certificate of Incorporation, no vote of the holders of the Preferred Stock or Common Stock shall be a prerequisite to the issuance of any shares of any series of the Preferred Stock authorized by and complying with the conditions of this Certificate of Incorporation, the right to have such vote being expressly waived by all present and future holders of the capital stock of the Corporation.

C. DESCRIPTION AND DESIGNATION OF SERIES A CONVERTIBLE PREFERRED STOCK, SERIES B CONVERTIBLE PREFERRED STOCK, SERIES C CONVERTIBLE PREFERRED STOCK, SERIES D CONVERTIBLE PREFERRED STOCK, SERIES E CONVERTIBLE PREFERRED STOCK, SERIES F CONVERTIBLE PREFERRED STOCK, AND SERIES G CONVERTIBLE PREFERRED STOCK.

One hundred thousand (100,000) shares of the authorized and unissued Preferred Stock of the Corporation are hereby designated "Series A Convertible Preferred Stock" (the "Series A Preferred Stock"), eighty-two thousand eight hundred fifty-seven (82,857) shares of the authorized and unissued Preferred Stock of the Corporation are hereby designated "Series B Convertible Preferred Stock" (the "Series B Preferred Stock"), nine hundred nineteen thousand two hundred twenty (919,220) shares of the authorized and unissued Preferred Stock of the Corporation are hereby designated "Series C Convertible Preferred Stock" (the "Series C Preferred Stock"), one million five hundred thousand (1,500,000) shares of the authorized and unissued Preferred Stock of the Corporation are hereby designated "Series D Convertible Preferred Stock" (the "Series D Preferred Stock"), one million nine hundred eighty-three thousand three hundred thirty-four (1,983,334) shares of the authorized and unissued Preferred Stock are hereby designated "Series E Convertible Preferred Stock" (the "Series E Preferred Stock"), two million six hundred sixty-six thousand six hundred sixty-six (2,666,666) shares of the authorized and unissued Preferred Stock are hereby designated "Series F Convertible Preferred Stock" (the "Series F Preferred Stock"), and three million six hundred sixty-six thousand six hundred sixty-seven (3,666,667) shares of the authorized and unissued Preferred Stock are hereby designated "Series G Convertible Preferred Stock" (the "Series G Preferred Stock") with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations.

1. Dividends.

(a) Cumulative Dividends on Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock, Series F Preferred Stock, and Series G Preferred Stock. (i) The holders of the Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock, Series F Preferred Stock, and Series G Preferred Stock (collectively, the "Senior Preferred Stock") in preference to the holders of the Common Stock and any other class of Preferred Stock (collectively the "Junior Securities") shall be entitled to receive, out of funds legally available therefor, cumulative dividends at a rate of 8% per annum (the "Dividend Rate") payable if, as and when declared by the Corporation's Board of Directors or upon the liquidation, dissolution or winding up of the Corporation, within the meaning of Section 2 hereof, or upon redemption as provided in Section 6 hereof, and not otherwise. Such dividends on each share of the Senior Preferred Stock shall be payable in cash and shall accrue at the Dividend Rate on the sum (such sum being called the "Preference Amount") of the (i) Original Issue Price (as defined in Section 4(a) below) and (ii) all accumulated and unpaid dividends accrued thereon from the date of original issuance of such share, whether or not declared or earned, and whether or not there are profits, surplus or other funds of the Corporation legally available for the payment of dividends and shall continue to accrue thereon until the Preference Amount is paid in full in cash. Upon redemption of the Senior Preferred Stock under Section 6 hereof, all such accrued and unpaid dividends, whether or not earned or declared, to and until the date of such redemption shall become immediately due and payable in full in cash. Upon any conversion of shares of the Senior Preferred Stock pursuant to Section 5, all rights to such accrued and unpaid dividends on such shares shall terminate. Unless all accrued dividends on the Senior Preferred Stock shall have been paid or declared and a sum sufficient for the payment thereof set apart, no dividend shall be paid or declared, and no distribution shall be made, on any Junior Security and no redemption of any Junior Securities shall occur. Except as otherwise provided herein, if at any time the Corporation pays less than the total amount of dividends then accrued with respect to the Senior Preferred Stock, such payment shall be distributed ratably among the holders of Senior Preferred Stock based upon the aggregate accrued but unpaid dividends of the Senior Preferred Stock held by each such holder.

(b) The Corporation shall not declare or pay any dividends or other distributions on shares of Common Stock until the holders of the Designated Preferred Stock then outstanding shall have first received, or simultaneously received, a cash dividend on each outstanding share of Designated Preferred Stock in an amount at least equal to the product of (x) the per share amount, if any, of the dividends or other distributions to be declared, paid or set aside for the Common Stock, multiplied by (y) the number of whole shares of Common Stock into which such Designated Preferred Stock is then convertible.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

(a) Except as provided in the next sentence, in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Designated Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, before any payment shall be made to the holders of Common Stock or any other class or series of stock ranking on liquidation junior

to the Designated Preferred Stock (such Common Stock and other stock being collectively referred to as "Junior Stock") by reason of their ownership thereof, an amount equal to the greater of (i) (A) \$1.00 per share for the Series A Preferred Stock, (B) \$1.75 per share for the Series B Preferred Stock, (C) \$1.00 per share for the Series C Preferred Stock, (D) \$1.50 per share for the Series D Preferred Stock, (E) \$3.00 per share for the Series E Preferred Stock, (F) \$3.00 per share for the Series F Preferred Stock, and (G) \$3.00 per share for the Series G Preferred Stock (in each case subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization affecting such shares), plus any dividends declared or accrued but unpaid thereon (each, a "Liquidation Value"), or (ii) such amount per share as would have been payable had each such share been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution or winding up. If upon any such liquidation, dissolution or winding up of the Corporation the remaining assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Designated Preferred Stock the full amount to which they shall be entitled, (i) the holders of shares of Senior Preferred Stock, in preference to all other holders of Designated Preferred Stock, shall first share ratably in any distribution of the remaining assets and funds of the Corporation in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full, and (ii) thereafter, if there are any remaining assets of the Corporation available for distribution, the holders of shares of Series A Preferred Stock and Series B Preferred Stock shall share ratably in any distribution of the remaining assets and funds of the Corporation in proportion to the respective amounts which would otherwise be payable with respect to the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

(b) After the payment of all preferential amounts required to be paid to the holders of Designated Preferred Stock and any other class or series of stock of the Corporation ranking on liquidation on a parity with the Designated Preferred Stock, upon the dissolution, liquidation or winding up of the Corporation, the holders of shares of Common Stock then outstanding shall be entitled to receive the remaining assets and funds of the Corporation available for distribution to its stockholders.

(c) A consolidation or merger of the Corporation with or into another corporation or entity, or a sale of all or substantially all of the assets of the Corporation, shall not be regarded as a liquidation, dissolution or winding up of the Corporation within the meaning of this Section 2.

3. Voting.

(a) Each holder of outstanding shares of Designated Preferred Stock shall be entitled to the number of votes equal to the number of whole shares of Common Stock into which the shares of Designated Preferred Stock held by such holder are then convertible (as adjusted from time to time pursuant to Section 4 hereof), at each meeting of stockholders of the Corporation (and written actions of stockholders in lieu of meetings) with respect to any and all matters presented to the stockholders of the Corporation for their action or consideration. Except as provided by law, by the provisions of Subsection 3(b) below or by the provisions establishing any other series of Preferred Stock, holders of Designated Preferred Stock and of any other

outstanding series of Preferred Stock shall vote together with the holders of Common Stock as a single class.

(b) The Corporation shall not amend, alter or repeal the preferences, special rights or other powers of the Designated Preferred Stock so as to affect adversely the Designated Preferred Stock, without the written consent or affirmative vote of the holders of a majority of the then outstanding shares of Designated Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class. For this purpose, without limiting the generality of the foregoing, the authorization of any shares of capital stock with preference or priority over the Designated Preferred Stock as to the right to receive either dividends or amounts distributable upon liquidation, dissolution or winding up of the Corporation shall be deemed to affect adversely the Designated Preferred Stock. However, the authorization of any shares of capital stock on a parity with the Designated Preferred Stock as to the right to receive either dividends or amounts distributable on liquidation, dissolution or winding up of the Corporation shall not be deemed to affect adversely the Designated Preferred Stock. The number of authorized shares of Designated Preferred Stock may be increased or decreased (but not below the number of shares outstanding) by the directors of the Corporation pursuant to Section 151 of the General Corporation Law of Delaware or by the affirmative vote of a majority of the then outstanding shares of Common Stock, Designated Preferred Stock and all other classes of stock of the Corporation entitled to vote thereon, voting as a single class, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of Delaware.

(c) The Corporation shall not (i) authorize any shares of capital stock on a parity with the Designated Preferred Stock as to the right to receive either dividends or amounts distributable upon liquidation, dissolution or winding up of the Corporation or (ii) take any action involving the merger, consolidation, or reorganization of the Company, or sale of substantially all of its assets, without the consent or affirmative vote of the holders of 67% of the then outstanding shares of the Common Stock, Designated Preferred Stock and all other classes or series of stock of the Corporation entitled to vote thereon, voting as a single class.

4. Optional Conversion. The holders of the Designated Preferred Stock shall have conversion rights as follows (the "Conversion Rights"):

(a) Right to Convert. Each share of Designated Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Original Issue Price (as defined below) by the Conversion Price (as defined below) in effect at the time of conversion. The "Original Issue Price" shall mean \$1.00 for the Series A Preferred Stock, \$1.75 for the Series B Preferred Stock, \$1.00 for the Series C Preferred Stock, \$1.50 for the Series D Preferred Stock, \$3.00 for the Series E Preferred Stock, \$3.00 for the Series F Preferred Stock, and \$3.00 for the Series G Preferred Stock. The "Conversion Price" shall initially be \$1.00 for the Series A Preferred Stock, \$1.75 for the Series B Preferred Stock, \$1.00 for the Series C Preferred Stock, \$1.50 for the Series D Preferred Stock, \$3.00 for the Series E Preferred Stock, \$3.00 for the Series F Preferred Stock, and \$3.00 for the Series G Preferred Stock. Such initial Conversion Price, and the rate at which shares of Designated Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

In the event of a liquidation of the Corporation, the Conversion Rights shall terminate at the close of business on the first full day preceding the date fixed for the payment of any amounts distributable on liquidation to the holders of Designated Preferred Stock.

(b) Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Designated Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(c) Mechanics of Conversion.

(i) In order for a holder of Designated Preferred Stock to convert shares of Designated Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of Designated Preferred Stock, at the office of the transfer agent for the Designated Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that such holder elects to convert all or any number of the shares of the Designated Preferred Stock represented by such certificate or certificates. Such notice shall state such holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his or its attorney duly authorized in writing. The date of receipt of such certificates and notice by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) shall be the conversion date ("Conversion Date"). The Corporation shall, as soon as practicable after the Conversion Date, issue and deliver at such office to such holder of Designated Preferred Stock, or to his or its nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled, together with cash in lieu of any fraction of a share.

(ii) The Corporation shall at all times when the Designated Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued stock, for the purpose of effecting the conversion of the Designated Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Designated Preferred Stock. Before taking any action which would cause an adjustment reducing the Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of the Designated Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Conversion Price.

(iii) Upon any such conversion, no adjustment to the Conversion Price shall be made for any declared or accrued but unpaid dividends on the Designated Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

(iv) All shares of Designated Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote,

shall immediately cease and terminate on the Conversion Date, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor and payment of any dividends declared or accrued but unpaid thereon. Any shares of Designated Preferred Stock so converted shall be retired and cancelled and shall not be reissued, and the Corporation (without the need for stockholder action) may from time to time take such appropriate action as may be necessary to reduce the authorized Designated Preferred Stock accordingly.

(v) The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Designated Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Designated Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

(d) Adjustment for Dilution Price. If at any time after the date of the filing of this Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware, the Corporation shall issue any shares of Common Stock, or shall issue any Common Stock Equivalents (as hereinafter defined), for a consideration per share less than the Conversion Price in effect immediately prior to the issuance of such Common Stock or Common Stock Equivalents, the Conversion Price of such share of Designated Preferred Stock in effect immediately prior to each such issuance shall be decreased to the amount determined in accordance with the following formula:

$$\text{Conversion Price} = \frac{P1Q1 + P2Q2}{Q1 + Q2}$$

For purposes of the foregoing formula:

P1 = Conversion Price in effect immediately prior to such issuance.

Q1 = Number of shares of Common Stock deemed outstanding (in accordance with subparagraph (F) below) immediately prior to such issuance.

P2 = Average price per share received by the Corporation upon such issuance (determined in accordance with subparagraphs (C) and (D) below).

Q2 = Number of shares of Common Stock issued or sold, or deemed to have been issued or sold (in accordance with subparagraph (D) below) upon such issuance.

For purpose of any adjustment of the Conversion Price pursuant to this Section 4(d), the following provisions shall be applicable:

(i) "Common Stock Equivalents" means any stock or security convertible into or exchangeable for Common Stock and any right, warrants or option to acquire Common Stock or any such convertible or exchangeable security.

(ii) The per share consideration for the sale or issuance of Common Stock shall be the price per share received by the Corporation before payment of commissions, discounts and other expenses. The value of any non-cash consideration received or receivable upon the sale or issuance of Common Stock or Common Stock Equivalents shall be determined in good faith by the Board of Directors of the Corporation.

(iii) In the case of the sale or issuance of Common Stock Equivalents, the per share consideration shall be determined by dividing the maximum number of shares of Common Stock issuable with respect to such Common Stock Equivalents into the aggregate consideration received by the Corporation upon the sale or issuance of such Common Stock Equivalents plus the minimum aggregate amount of any additional consideration receivable by the Corporation upon the conversion or exercise of such Common Stock Equivalents. Such maximum number of shares shall be deemed issued on the earlier of the payment date or record date for a distribution of Common Stock Equivalents.

(iv) If any Common Stock Equivalents included in adjustments under this Section 4(d) expire or terminate without the Common Stock to which they related having been issued, the Conversion Price shall be readjusted to eliminate the effect of the assumed issuance of such Common Stock. If any Common Stock Equivalents by their terms provide for subsequent increases in the additional consideration payable for the related Common Stock or for subsequent decreases in the number of shares of Common Stock obtainable, upon any such increase or decrease, the Conversion Price shall be appropriately readjusted to the extent such Common Stock Equivalents have not then expired or been exercised or converted. The aggregate increase in the Conversion Price caused by all such readjustments shall not exceed the decrease in Conversion Price made upon the issuance of the Common Stock Equivalents to which such readjustment relates.

(v) In case the Corporation shall declare a dividend or make any other distribution upon any stock of the Corporation payable in Common Stock or Common Stock Equivalents, such Common Stock or Common Stock Equivalents shall be deemed to have been issued or sold without consideration as of the earlier of the related record or payment date.

(vi) The number of shares of Common Stock outstanding at any point in time shall include all shares then issuable or to become issuable pursuant to any Common Stock Equivalent then issued or to be issued.

(vii) The following issuance of Common Stock or Common Stock Equivalents shall be excluded from the adjustment of the Conversion Price: (i) any dividend or distribution on any Designated Preferred Stock; (ii) any stock for which adjustment of the Conversion Price is made pursuant to subsections 4(e), 4(f), 4(g), or 4(h) below (iii) the 1,034,333 shares of Common Stock issuable upon outstanding options and warrants; and (vi) up to an aggregate of 1,327,000 shares of Common Stock (or such higher number as designated by

the Board of Directors) or options therefor that are issuable to employees, consultants, or scientific advisory board members of the Company.

(e) Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the filing of this Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware (the "Filing Date") effect a subdivision of the outstanding Common Stock, the Conversion Price then in effect immediately before that subdivision shall be proportionately decreased. If the Corporation shall at any time or from time to time after the Filing Date effect a subdivision of any of the Designated Preferred Stock, the Conversion Price with respect to such series of Designated Preferred Stock then in effect immediately before that subdivision shall be proportionately increased. If the Corporation shall at any time or from time to time after the Filing Date combine the outstanding shares of Common Stock, the Conversion Price then in effect immediately before the combination shall be proportionately increased. If the Corporation shall at any time or from time to time after the Filing Date combine the outstanding shares of any Designated Preferred Stock, the Conversion Price with respect to such series of Designated Preferred Stock then in effect immediately before the combination shall be proportionately decreased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision or combination becomes effective.

(f) Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time, or from time to time after the Filing Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Price for the Designated Preferred Stock then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price for the Designated Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price for the Designated Preferred Stock shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends or distributions; and provided further, however, that no such adjustment shall be made if the holders of Designated Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Designated Preferred Stock had been converted into Common Stock on the date of such event.

(g) Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Filing Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of the Designated Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of securities of the Corporation that they would have received had the Designated Preferred Stock been converted into Common Stock on the date of such event and had they thereafter, during the period from the date of such event to and including the conversion date, retained such securities receivable by them as aforesaid during such period, giving application to all adjustments called for during such period under this paragraph with respect to the rights of the holders of the Designated Preferred Stock; and provided further, however, that no such adjustment shall be made if the holders of Designated Preferred Stock simultaneously receive a dividend or other distribution of such securities in an amount equal to the amount of such securities as they would have received if all outstanding shares of Designated Preferred Stock had been converted into Common Stock on the date of such event.

(h) Adjustment for Reclassification, Exchange, or Substitution. If the Common Stock issuable upon the conversion of the Designated Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, or otherwise (other than a subdivision or combination of shares or stock dividend provided for above, or a reorganization, merger, consolidation, or sale of assets provided for below), then and in each such event the holder of each such share of Designated Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, or other change, by holders of the number of shares of Common Stock into which such shares of Designated Preferred Stock might have been converted immediately prior to such reorganization, reclassification, or change, all subject to further adjustment as provided herein.

(i) Adjustment for Merger or Reorganization, etc. In case of any consolidation or merger of the Corporation with or into another corporation or the sale of all or substantially all of the assets of the Corporation to another corporation, each share of Designated Preferred Stock shall thereafter be convertible (or shall be converted into a security which shall be convertible) into the kind and amount of shares of stock or other securities or property to which a holder of the number of shares of Common Stock of the Corporation deliverable upon conversion of such Designated Preferred Stock would have been entitled upon such consolidation, merger or sale; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors) shall be made in the application of the provisions in this Section 4 set forth with respect to the rights and interest thereafter of the holders of the Designated Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Conversion Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any shares of stock or other property thereafter deliverable upon the conversion of the Designated Preferred Stock.

(j) No Impairment. The Corporation will not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but will at all times in good faith assist in the carrying out of all the provisions of this Section 4 and in the taking of all such action as may be necessary or appropriate in order to protect the Conversion Rights of the holders of the Designated Preferred Stock against impairment.

(k) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price pursuant to this Section 4, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Designated Preferred Stock a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any holder of Designated Preferred Stock, furnish or cause to be furnished to such holder a similar certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price then in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which then would be received upon the conversion of Designated Preferred Stock.

5. Mandatory Conversion.

(a) Upon the closing of the sale of shares of Common Stock, in a public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least \$20,000,000 of gross proceeds to the Corporation and a price per share of Common Stock of at least \$12.00 (appropriately adjusted to reflect the occurrence of any event described in Section 4) (the "Mandatory Conversion Date"), all outstanding shares of Designated Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate.

(b) All holders of record of shares of Designated Preferred Stock will be given written notice of the Mandatory Conversion Date and the place designated for mandatory conversion of all such shares of Designated Preferred Stock pursuant to this Section 5. Such notice shall be sent by first class or registered mail, postage prepaid, to each record holder of Designated Preferred Stock at such holder's address last shown on the records of the transfer agent for the Designated Preferred Stock (or the records of the Corporation, if it serves as its own transfer agent). Upon receipt of such notice, each holder of shares of Designated Preferred Stock shall surrender his or its certificate or certificates for all such shares to the Corporation at the place designated in such notice, and shall thereafter receive certificates for the number of shares of Common Stock to which such holder is entitled pursuant to this Section 5. On the Mandatory Conversion Date, all rights with respect to the Designated Preferred Stock so converted, including the rights, if any, to receive notices and vote, will terminate, except only the rights of the holders thereof, upon surrender of their certificate or certificates therefor, to receive certificates for the number of shares of Common Stock into which such Designated Preferred Stock has been converted, and payment of any declared or accrued but unpaid dividends thereon (all of which shall be deemed to be declared by the Board of Directors on the Mandatory Conversion Date). If so required by the Corporation, certificates surrendered for conversion

shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his or its attorney duly authorized in writing. As soon as practicable after the Mandatory Conversion Date and the surrender of the certificate or certificates for Designated Preferred Stock, the Corporation shall cause to be issued and delivered to such holder, or on his or its written order, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and cash as provided in Subsection 4(b) in respect of any fraction of a share of Common Stock otherwise issuable upon such conversion.

(c) All certificates evidencing shares of Designated Preferred Stock which are required to be surrendered for conversion in accordance with the provisions hereof shall, from and after the Mandatory Conversion Date, be deemed to have been retired and cancelled and the shares of Designated Preferred Stock represented thereby converted into Common Stock for all purposes, notwithstanding the failure of the holder or holders thereof to surrender such certificates on or prior to such date. The Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized Designated Preferred Stock accordingly.

6. Redemption of the Senior Preferred Stock. The shares of Senior Preferred Stock shall be redeemed as follows:

(a) Optional Redemption. At the written request of the holders of at least 60% of the then outstanding shares of Senior Preferred Stock, acting as one class, made at any time on or after November 26, 2005 (the "Trigger Date"), the Company shall call for redemption, and shall redeem from the holders of the Senior Preferred Stock not later than ninety (90) days after the Trigger Date (such date established for redemption, the "Redemption Date") all of the Senior Preferred Stock at a Redemption Price per share (the "Redemption Price") equal to the Preference Amount for such series of Senior Preferred Stock. The Redemption Price for each series of Senior Preferred Stock shall be appropriately adjusted in the event of any stock dividend, stock split, combination of shares, reclassification or other similar event with respect to such series of Senior Preferred Stock.

(b) Redemption Mechanics. Written notice of redemption (the "Redemption Notice") shall be sent by the Corporation to each holder of record of shares of Senior Preferred Stock to be redeemed (at the close of business on the business day next preceding the date on which the Redemption Notice is given), not less than twenty (20) days not more than thirty (30) days prior to the Redemption Date set forth therein, by delivery in person, nationally recognized courier, mailed by certified or registered mail, return receipt requested, or sent by telecopier or telex. The Redemption Notice shall be addressed to each holder at its address as shown by the records of the Corporation and shall contain the following information:

(i) the number of shares of the Senior Preferred Stock held by the holder that are to be redeemed by the Corporation;

(ii) the Redemption Date and the applicable Redemption Price; and

(iii) that the holder is to surrender to the Corporation, at the place designated therein, its certificate or certificates representing the shares of the Senior Preferred Stock to be redeemed.

The Corporation, if advised to do so before the close of business on the Redemption Date by written notice from any holder of record of Senior Preferred Stock to be redeemed, shall credit against the number of shares of Senior Preferred Stock required to be redeemed from such holder, and shall not redeem, the number of shares of Senior Preferred Stock called for redemption which have been converted by such holder into Common Stock of the Corporation after the Trigger Date and on or before such Redemption Date.

From and after the close of business on the Redemption Date, unless there shall have been a default in the payment of the Redemption Price, all rights of holders of shares of Senior Preferred Stock (except the right to receive the Redemption Price) shall cease with respect to the shares to be redeemed on the Redemption Date, and such shares shall not thereafter be transferred on the books of the Corporation or be deemed to be outstanding for any purpose whatsoever.

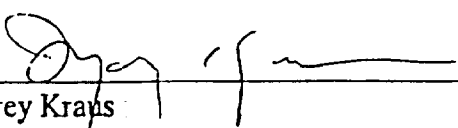
(c) Insufficient Funds for Redemption. If the funds of the Corporation legally available for redemption of shares of the Senior Preferred Stock on a Redemption Date are insufficient to redeem the total number of shares of the Senior Preferred Stock to be redeemed on such Redemption Date, the holders of such shares shall share ratably in any funds legally available for redemption of such shares according to the respective amounts which would be payable to them if the full number of shares to be redeemed on such Redemption Date were actually redeemed. If, for any reason, the Corporation fails to redeem all shares of the Senior Preferred Stock entitled to such redemption on the Redemption Date (i) the unredeemed shares shall remain outstanding and shall continue to have all rights and preferences provided for herein, (ii) interest shall accrue on the amount owing and unpaid on the Redemption Date until paid in full at a rate of 12% per annum, or such higher rate as equals the applicable federal rate and (iii) the holders of such unredeemed shares shall have the ongoing right to be redeemed together with such rights and remedies as may be available under applicable law. At any time thereafter when additional funds of the Corporation are legally available for the redemption of such shares of the Senior Preferred Stock, such funds will be used, at the end of the next succeeding fiscal quarter, to redeem the balance of such shares, or such portion thereof for which funds are then legally available, on the basis set forth above.

(d) Surrender of Certificates. Each holder of shares of Senior Preferred Stock to be redeemed under this Section 6 shall surrender the certificate or certificates representing such shares to the Corporation at the place designated in the Redemption Notice, and thereupon the Redemption Price for such shares as set forth in this Section 6(a) shall be paid to the order of the person whose name appears on such certificate or certificates, and each surrendered certificate shall be cancelled. In the event that some but not all of the shares of the Senior Preferred Stock represented by a certificate(s) surrendered by a holder are being redeemed, the Corporation shall execute and deliver to such holder a new certificate representing the number of shares of the Senior Preferred Stock which were not redeemed.

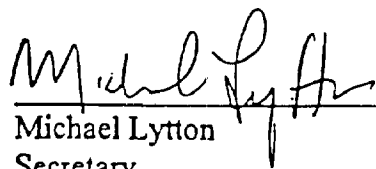
(e) Redeemed or Otherwise Acquired Shares to be Retired. Any shares of Senior Preferred Stock redeemed pursuant to this Section 6 or otherwise acquired by the Corporation in any manner whatsoever shall be cancelled and shall not under any circumstances be reissued. The Corporation may from time to time take such appropriate corporate action as may be necessary to reduce accordingly the number of authorized shares of Senior Preferred Stock.

IN WITNESS WHEREOF, the Corporation has caused its corporate seal to be affixed hereto and this Amended and Restated Certificate of Incorporation to be signed by its President and attested by its Secretary this 11th day of April, 2000.

t. BREEDERS, INC.

By: 
Morey Kraus
President

ATTEST:


Michael Lytton
Secretary



The Commonwealth of Massachusetts

Secretary of the Commonwealth

State House, Boston, Massachusetts 02133

William Francis Galvin
Secretary of the
Commonwealth

April 20, 2000

TO WHOM IT MAY CONCERN:

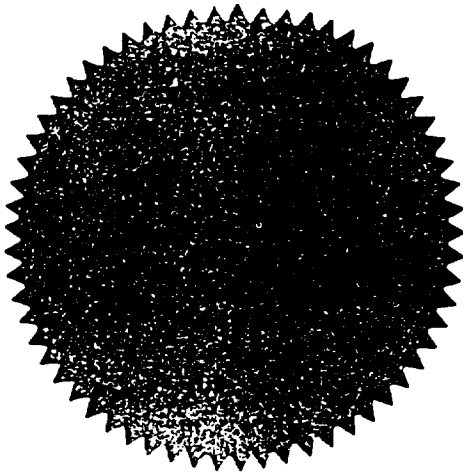
I certify that according to the records of this office,

T. BREEDERS, INC.

a corporation organized under the Laws of Delaware on
September 2, 1994, qualified to do business in the Commonwealth of
Massachusetts on September 7, 1994 pursuant to General Laws, Chapter
181, Section 4.

I further certify that on April 20, 2000, an Amended Foreign
Corporation Certificate was filed reflecting the change of name of
said corporation to VIACELL, INC.

I also certify that said corporation is still qualified to do
business in the Commonwealth.



In testimony of which,
I have hereunto affixed the
Great Seal of the Commonwealth
on the date first above written.

William Francis Galvin

Secretary of the Commonwealth