

Title of each class Name of each exchange on which
to be so registered each class is to be registered

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c), check the following box. "

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d), check the following box. x

Securities Act registration statement file number to which this form relates: Not Applicable

Securities to be registered pursuant to Section 12(g) of the Act:

Rights to Purchase Series A Junior Participating Preferred Stock

(Title of Class)

ITEM 1. Description of Registrant's Securities to be Registered.

This Form 8-A/A is filed by Hemispherx Biopharma, Inc. (the “Company”) to amend and restate Item 1 of the Form 8-A first filed by the Company with the Securities and Exchange Commission on November 20, 2002.

On November 2, 2012, the Company executed an Amended and Restated Rights Agreement amending and restating the November 19, 2002 Rights Agreement between the Company and Continental Stock Transfer & Trust Company, as Rights Agent (as amended, the “Rights Agreement”). The Rights Agreement, which is effective as of November 2, 2012, extends the term of the Rights Plan to November 18, 2017 and amends certain other provisions, as described below.

Accordingly, Item 1 is hereby restated and amended as follows:

On November 19, 2002, the Board of Directors of the Company declared a dividend distribution of one Right for each outstanding share of Common Stock to stockholders of record at the close of business on November 29, 2002 (the “Record Date”). On November 2, 2012, at the direction of the Board, the Company amended and restated the Rights Agreement between the Company and Continental Stock Transfer & Trust Company, as Rights Agent (as amended, the “Rights Agreement”). Each Right entitles the registered holder to purchase from the Company a unit consisting of one one-hundredth of a share (a “Unit”) of Series A Junior Participating Preferred Stock, par value \$.01 per share (the “Series A Preferred Stock”) at a Purchase Price of \$30.00 per Unit, subject to adjustment. The description and terms of the Rights are set forth in the Rights Agreement.

Initially, the Rights attached to all Common Stock certificates representing shares outstanding at the Record Date. The Rights attach to all certificates (or book entry notation) of shares of Common Stock issued after the Record Date. No separate Rights Certificates will be distributed. Subject to certain exceptions specified in the Rights Agreement, the Rights will separate from the Common Stock and a Distribution Date will occur upon the earlier of (i) 10 days following a public announcement that a person or group of affiliated or associated persons (an “Acquiring Person”) has acquired beneficial ownership of 15% or more (or 20% or more for William A. Carter, M.D. and his Affiliates and Associates) of the outstanding shares of Common Stock (the “Stock Acquisition Date”), other than as a result of repurchases of stock by the Company or certain inadvertent actions by institutional or certain other stockholders or (ii) 10 business days (or such later date as the Board shall determine) following the commencement of a tender offer or exchange offer that would result in a person or group becoming an Acquiring Person. Until the Distribution Date, (i) the Rights will be evidenced by certificates and Book Entry Notations for the Common Stock (collectively, “Common Stock Certificates”) and will be transferred with and only with such Common Stock Certificates, (ii) new Common Stock Certificates issued after the Record Date will contain a notation incorporating the Rights Agreement by reference and (iii) the surrender for transfer of any Common Stock Certificates outstanding will also constitute the

transfer of the Rights associated with the Common Stock represented by such Common Stock Certificate. Pursuant to the Rights Agreement, the Company reserves the right to require prior to the occurrence of a Triggering Event (as defined below) that, upon any exercise of Rights, a number of Rights be exercised so that only whole shares of Preferred Stock will be issued.

The Rights are not exercisable until the Distribution Date and will expire at 5:00 P.M. (New York City time) on November 18, 2017, unless such date is extended or the Rights are earlier redeemed or exchanged by the Company as described below.

As soon as practicable after the Distribution Date, Rights Certificates will be mailed to holders of record of the Common Stock as of the close of business on the Distribution Date and, thereafter, the

separate Rights Certificates alone will represent the Rights. Except as otherwise determined by the Board of Directors, only shares of Common Stock issued prior to the Distribution Date will be issued with Rights.

In the event that a Person becomes an Acquiring Person, except pursuant to an offer for all outstanding shares of Common Stock which the independent directors determine to be fair and not inadequate and to otherwise be in the best interests of the Company and its stockholders, after receiving advice from one or more investment banking firms (a "Qualified Offer"), each holder of a Right will thereafter have the right to receive, upon exercise, Common Stock (or, in certain circumstances, cash, property or other securities of the Company) having a value equal to two times the exercise price of the Right. Notwithstanding any of the foregoing, following the occurrence of the event set forth in this paragraph, all Rights that are, or (under certain circumstances specified in the Rights Agreement) were, beneficially owned by any Acquiring Person will be null and void. However, Rights are not exercisable following the occurrence of the event set forth above until such time as the Rights are no longer redeemable by the Company as set forth below.

In the event that, at any time following the Stock Acquisition Date, (i) the Company engages in a merger or other business combination transaction in which the Company is not the surviving corporation (other than a merger or business combination with an entity which acquired the shares pursuant to a Qualified Offer in which holders of the Company common stock receive the same consideration per share as in the Qualified Offer), (ii) the Company engages in a merger or other business combination transaction in which the Company is the surviving corporation and the Common Stock of the Company is changed or exchanged, or (iii) 50% or more of the Company's assets, cash flow or earning power is sold or transferred, each holder of a Right (except Rights which have previously been voided as set forth above) shall thereafter have the right to receive, upon exercise, common stock of the acquiring company having a value equal to two times the exercise price of the Right. The events set forth in this paragraph and in the second preceding paragraph are referred to as the "Triggering Events."

At any time after a person becomes an Acquiring Person and prior to the acquisition by such person or group of fifty percent (50%) or more of the outstanding Common Stock, the Board may exchange the Rights (other than Rights owned by such person or group which have become void), in whole or in part, at an exchange ratio of one share of Common Stock, or one one-hundredth of a share of Preferred Stock (or of a share of a class or series of the Company's preferred stock having equivalent rights, preferences and privileges), per Right (subject to adjustment).

The Purchase Price payable, and the number of Units of Preferred Stock or other securities or property 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) if holders of the Preferred Stock are granted certain rights or warrants to subscribe for Preferred Stock or convertible securities at less than the current market price of the Preferred Stock, or (iii) upon the distribution to holders 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).

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments amount to at least 1% of the Purchase Price. No fractional Units will be issued and, in lieu thereof, an adjustment in cash will be made based on the market price of the Preferred Stock on the last trading date prior to the date of exercise.

At any time prior to such time as any Person becomes an Acquiring Person, the Company may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (payable in cash, Common

Stock or other consideration deemed appropriate by the Board of Directors). Immediately upon the action of the Board of Directors ordering redemption of the Rights, the Rights will terminate and the only right of the holders of Rights will be to receive the \$0.001 redemption price.

Until a Right is exercised, the holder thereof, as such, will have no rights as a stockholder of the Company, including, without limitation, the right to vote or to receive dividends. While the distribution of the Rights will not be taxable to stockholders or to the Company, stockholders may, depending upon the circumstances, recognize taxable income in the event that the Rights become exercisable for Common Stock (or other consideration) of the Company or for common stock of the acquiring company or in the event of the redemption of the Rights as set forth above.

Any of the provisions of the Rights Agreement may be amended by the Board of Directors of the Company 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, to make changes which do not adversely affect the interests of holders of Rights, or to shorten or lengthen any time period under the Rights Agreement. The foregoing notwithstanding, no amendment may be made at such time as the Rights are not redeemable.

A copy of the Rights Agreement is filed with the Securities and Exchange Commission as an Exhibit to this Amended Registration Statement on Form 8-A/A. A copy of the Rights Agreement is available free of charge from the Company. 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 incorporated herein by reference.

ITEM 2. Exhibits.

Amended and Restated Rights Agreement, dated as of November 2, 2012, between Hemispherx Biopharma, Inc. and Continental Stock Transfer & Trust Company. The Rights Agreement includes the Form of Amended and Restated Certificate of Designation, Preferences and Rights of the Series A Junior Participating Preferred Stock, the Form of Rights Certificate and the Summary of the Right to Purchase Preferred Stock.

SIGNATURE

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

Hemispherx Biopharma, Inc.

By: /s/ William A. Carter
Dr. William A. Carter,
President and Chief Executive Officer

Dated as of: November 2, 2012

Exhibit 1

HEMISPHERX BIOPHARMA, INC.

and

CONTINENTAL STOCK TRANSFER & TRUST COMPANY,

Rights Agent

Amended and Restated

Rights Agreement

Dated as of November 2, 2012

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AMENDED AND RESTATED RIGHTS AGREEMENT

AMENDED AND RESTATED RIGHTS AGREEMENT, dated as of November 2, 2012 (the “Agreement”), between Hemispherx Biopharma, Inc., a Delaware corporation (the “Company”), and Continental Stock Transfer & Trust Company, a New York banking corporation (the “Rights Agent”).

WITNESSETH

WHEREAS, on November 19, 2002, the Company entered into the original Rights Agreement (the “Original Agreement”) with the Rights Agent;

WHEREAS, pursuant to the Original Agreement, the “Final Expiration Date” as defined therein is November 19, 2012;

WHEREAS, pursuant to Section 27 of the Original Agreement, the Company, prior to the Distribution Date (as defined in the Original Agreement) has the power to amend the Original Rights Agreement;

WHEREAS, the Distribution Date has not occurred;

WHEREAS, on October 31, 2012, the Board of Directors of the Company (the “Board of Directors”) determined that it was in the best interest of the Company’s stockholders to extend the “Final Expiration Date” until November 18, 2017 and, based on certain changes in circumstances since the date of the Original Agreement, to make certain other amendments to the Original Agreement;

WHEREAS, on November 19, 2002 (the “Rights Dividend Declaration Date”), the Board of Directors of the Company authorized and declared a dividend distribution of one Right (as hereinafter defined) for each share of common stock, par value \$0.001 per share, of the Company (the “Common Stock”) outstanding at the close of business on November 29, 2002 (the “Record Date”), and has authorized the issuance of one Right (as such number may hereinafter be adjusted pursuant to the provisions of Section 11(p) hereof) for each share of Common Stock of the Company issued between the Record Date (whether originally issued or delivered from the Company's treasury) and the Distribution Date (as hereinafter defined) each Right initially representing the right to purchase one one-hundredth of share of Series A Junior Participating Preferred Stock of the Company (the “Preferred Stock”) having the rights, powers and preferences set forth in the form of Certificate of Designation, Preferences and Rights attached to the Original Agreement as

Exhibit A, upon the terms and subject to the conditions thereafter set forth (the “Original Rights”); and

WHEREAS, pursuant to this Agreement, the Company will amend and restate the foregoing Certificate of Designation, Preferences and Rights in the form attached hereto as Exhibit A amending the Original Rights to conform to the changes effected to the Original Agreement by this Agreement (as so amended, the “Rights”);

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein set forth, the parties hereby agree as follows:

Section 1. Certain Definitions.

For purposes of this Agreement, the following terms have the meanings indicated:

(a) “Acquiring Person” shall mean any Person, who or which, together with all Affiliates and Associates of such Person, shall be the Beneficial Owner of 15% or more of the shares of Common Stock

then outstanding, but shall not include (i) the Company, (ii) any Subsidiary of the Company, (iii) any employee benefit plan of the Company, or of any Subsidiary of the Company, or any Person or entity organized, appointed or established by the Company for or pursuant to the terms of any such plan, (iv) William A. Carter, M.D., unless he, along with his Affiliates and Associates (together with his Affiliates and Associates, "Dr. Carter") becomes the Beneficial Owner of more than 20% of the shares of Common Stock then outstanding (except where Dr. Carter inadvertently becomes the Beneficial Owner of more than such 20% solely as a result of Company action, e.g., due to a distribution of dividends or other distributions to all holders of Common Stock), or (v) any Person who becomes the Beneficial Owner of fifteen percent (15%) or more of the shares of Common Stock then outstanding as a result of a reduction in the number of shares of Common Stock outstanding due to the repurchase of shares of Common Stock by the Company unless and until such Person, after becoming aware that such Person has become the Beneficial Owner of fifteen percent (15%) or more of the then outstanding shares of Common Stock, acquires beneficial ownership of additional shares of Common Stock representing one percent (1%) or more of the shares of Common Stock then outstanding (except where such a Person inadvertently acquires such additional 1% solely as a result of Company action, e.g., due to a distribution of dividends or other distributions to all holders of Common Stock), or (vi) unless otherwise determined by the Board of Directors, any such Person who has reported or is required to report such ownership on Schedule 13G under the Exchange Act (or any comparable or successor report) or on Schedule 13D under the Exchange Act (or any comparable or successor report) which Schedule 13D does not state any intention to or reserve the right to control or influence the management or policies of the Company or engage in any of the actions specified in Item 4 of such schedule (other than the disposition of the Common Stock) and, within 10 Business Days of being requested by the Company to advise it regarding the same, certifies to the Company that such Person acquired shares of Common Stock in excess of 14.99% inadvertently or without knowledge of the terms of the Rights and who or which, together with all Affiliates and Associates, thereafter does not acquire additional shares of Common Stock while the Beneficial Owner of 15% or more of the shares of Common Stock then outstanding; provided, however, that if the Person requested to so certify fails to do so within 10 Business Days, then such Person shall become an Acquiring Person immediately after such 10-Business-Day period.

(b) "Act" shall mean the Securities Act of 1933, as amended.

(c) "Adjustment Shares" shall have the meaning set forth in Section 11(a)(ii) hereof.

(d) "Affiliate" and "Associate" shall have the respective meanings ascribed to such terms in Rule 12b-2 of the General Rules and Regulations under the Exchange Act; however, directors or officers of a corporation will not be deemed to be "Affiliates" or "Associates" of any other director or officer of such corporation solely as a result of his or her being a director or officer of such corporation.

(e) A Person shall be deemed the "Beneficial Owner" of, and shall be deemed to "beneficially own," any securities:

(i) which such Person or any of such Person's Affiliates or Associates, directly or indirectly, has the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding (whether or not in writing) or upon the exercise of conversion rights, exchange rights, other rights, warrants or options, or otherwise; provided, however, that a Person shall not be deemed the "Beneficial Owner" of, or to "beneficially own", (A) securities tendered pursuant to a tender or exchange offer made by such Person or any of such Person's Affiliates or Associates until such tendered securities are accepted for purchase or exchange, (B) securities issuable upon exercise of Rights at any time prior to the occurrence of a Triggering Event (as hereinafter defined), or (C) securities issuable upon exercise of Rights from and after the occurrence of a Triggering Event which

Rights were acquired by such Person or any of such Person's Affiliates or Associates prior to the Distribution Date (as hereinafter defined) or pursuant to Section 3(a) or Section 22 hereof (for purposes of this subsection, the "Original Rights") or pursuant to Section 11(i) hereof in connection with an adjustment made with respect to any Original Rights;

(ii) which such Person or any of such Person's Affiliates or Associates, directly or indirectly, has the right to vote or dispose of or has "beneficial ownership" of (as determined pursuant to Rule 13d-3 of the General Rules and Regulations under the Exchange Act), including pursuant to any agreement, arrangement or understanding, whether or not in writing; provided, however, that a Person shall not be deemed the "Beneficial Owner" of, or to "beneficially own," any security under this subparagraph (ii) as a result of an agreement, arrangement or understanding to vote such security if such agreement, arrangement or understanding: (A) arises solely from a revocable proxy given in response to a public proxy or consent solicitation made pursuant to, and in accordance with, the applicable provisions of the General Rules and Regulations under the Exchange Act, and (B) is not reportable by such Person on Schedule 13D under the Exchange Act (or any comparable or successor report); or

(iii) which are beneficially owned, directly or indirectly, by any other Person (or any Affiliate or Associate thereof) with which such Person (or any of such Person's Affiliates or Associates) has any agreement, arrangement or understanding (whether or not in writing), for the purpose of acquiring, holding, voting (except pursuant to a revocable proxy as described in the proviso to subparagraph (ii) of this paragraph (d)) or disposing of any voting securities of the Company; provided, however, that nothing in this paragraph (d) shall cause a Person engaged in business as an underwriter of securities to be the "Beneficial Owner" of, or to "beneficially own," any securities acquired through such Person's participation in good faith in a firm commitment underwriting until the expiration of forty days after the date of such acquisition, and then only if such securities continue to be owned by such Person at such expiration of forty days.

(f) "Business Day" shall mean any day other than a Saturday, Sunday or a day on which banking institutions in the State of New York are authorized or obligated by law or executive order to close.

(g) "Close of business" on any given date shall mean 5:00 P.M., New York City time, on such date; provided, however, that if such date is not a Business Day, it shall mean 5:00 P.M., New York City time, on the next succeeding Business Day.

(h) "Common Stock" shall mean the common stock, par value \$0.001 per share, of the Company, except that "Common Stock" when used with reference to any Person other than the Company shall mean the capital stock of such Person with the greatest voting power in relation to any other classes or series of capital stock (or equity interest) of such Person, or the equity securities or other equity interest having power to control or direct the management, of such Person.

- (i) “Common Stock Equivalents” shall have the meaning set forth in Section 11(a)(iii) hereof.

- (j) “Current Market Price” shall have the meaning set forth in Section 11(d)(i) hereof.

- (k) “Current Value” shall have the meaning set forth in Section 11(a)(iii) hereof.

- (l) “Distribution Date” shall have the meaning set forth in Section 3(a) hereof.

- (m) “Equivalent Preferred Stock” shall have the meaning set forth in Section 11(b) hereof.
- (n) “Exchange Act” shall mean the Securities Exchange Act of 1934, as amended.
- (o) “Exchange Ratio” shall have the meaning set forth in Section 24 hereof.
- (p) “Expiration Date” shall have the meaning set forth in Section 7(a) hereof.
- (q) “Final Expiration Date” shall have the meaning set forth in Section 7(a) hereof.
- (r) “Person” shall mean any individual, firm, corporation, partnership or other entity.
- (s) “Preferred Stock” shall mean shares of Series A Junior Participating Preferred Stock, par value \$0.01 per share, of the Company, and, to the extent that there are not a sufficient number of shares of Series A Junior Participating Preferred Stock authorized to permit the full exercise of the Rights, any other series of preferred stock of the Company designated for such purpose containing terms substantially similar to the terms of the Series A Junior Participating Preferred Stock.
- (t) “Principal Party” shall have the meaning set forth in Section 13(b) hereof.
- (u) “Purchase Price” shall have the meaning set forth in Section 4(a)(ii) hereof.
- (v) “Qualified Offer” shall have the meaning set forth in Section 11(a)(ii) hereof.
- (w) “Record Date” shall have the meaning set forth in the preamble of this Agreement.

- (x) “Rights” shall have the meaning set forth in the preamble of this Agreement.

- (y) “Rights Agent” shall have the meaning set forth in the preamble of this Agreement.

- (z) “Rights Certificate” shall have the meaning set forth in Section 3(a) hereof.

- (aa) “Rights Dividend Declaration Date” shall have the meaning set forth in the preamble of this Agreement.

- (bb) “Section 11(a)(ii) Event” shall mean any event described in Section 11(a)(ii) hereof.

- (cc) “Section 13 Event” shall mean any event described in clauses (x), (y) or (z) of Section 13(a) hereof.

- (dd) “Spread” shall have the meaning set forth in Section 11(a)(iii) hereof.

- (ee) “Stock Acquisition Date” shall mean the first date of public announcement (which, for purposes of this definition, shall include, without limitation, a report filed or amended pursuant to Section 13(d) under the Exchange Act) by the Company or an Acquiring Person that an Acquiring Person has become such other than pursuant to a Qualified Offer.

- (ff) “Subsidiary” shall mean, with reference to any Person, any corporation of which an amount of voting securities sufficient to elect at least a majority of the directors of such corporation is beneficially owned, directly or indirectly, by such Person, or otherwise controlled by such Person.

- (gg) “Substitution Period” shall have the meaning set forth in Section 11(a)(iii) hereof.

(hh) “Summary of Rights” shall have the meaning set forth in Section 3(b) hereof.

(ii) “Trading Day” shall have the meaning set forth in Section 11(d)(i) hereof.

(jj) “Triggering Event” shall mean any Section 11(a)(ii) Event or any Section 13 Event.

Section 2. Appointment of Rights Agent.

The Company hereby appoints the Rights Agent to act as agent for the Company and the holders of the Rights (who, in accordance with Section 3 hereof, shall prior to the Distribution Date also be the holders of the Common Stock) in accordance with the terms and conditions hereof, and the Rights Agent hereby accepts such appointment. The Company may from time to time appoint such co-rights agents as it may deem necessary or desirable.

Section 3. Issuance of Rights Certificates.

(a) Until the earlier of (i) the close of business on the tenth day after the Stock Acquisition Date (or, if the tenth day after the Stock Acquisition Date occurs before the Record Date, the close of business on the Record Date), or (ii) the close of business on the tenth Business Day (or such later date as the Board shall determine) after the date that a tender or exchange offer by any Person (other than the Company, any Subsidiary of the Company, any employee benefit plan of the Company or of any Subsidiary of the Company, or any Person or entity organized, appointed or established by the Company for or pursuant to the terms of any such plan) is first published or sent or given within the meaning of Rule 14d-2(a) of the General Rules and Regulations under the Exchange Act, if upon consummation thereof, such Person would become an Acquiring Person, in either instance other than pursuant to a Qualified Offer (the earlier of (i) and (ii) being herein referred to as the “Distribution Date”), (x) the Rights will be evidenced (subject to the provisions of paragraph (b) of this Section 3) by the certificates for the Common Stock¹ registered in the names of the holders of the Common Stock (which certificates for Common Stock shall be deemed also to be certificates for Rights) and not by separate certificates, and (y) the Rights will be transferable only in connection with the transfer of the underlying shares of Common Stock (including a transfer to the Company). As soon as practicable after the Distribution Date, the Rights Agent will send by first-class, insured, postage-prepaid mail, to each record holder of the Common Stock as of the close of business on the Distribution Date, at the address of such holder shown on the records of the Company, one or more rights certificates, in substantially the form of Exhibit B hereto (the “Rights Certificates”), evidencing one Right for each share of Common Stock so held, subject to adjustment as provided herein. In the event that an adjustment in the number of Rights per share of Common Stock has been made pursuant to Section 11(p) hereof, at the time of distribution of the Rights Certificates, the Company shall make the necessary and appropriate rounding adjustments (in accordance with Section 14(a) hereof) so that Rights Certificates representing only whole numbers of Rights are distributed and cash is paid in lieu of any fractional Rights. As of and after the

Distribution Date, the Rights will be evidenced solely by such Rights Certificates.

(b) Following the Record Date the Company made available, a copy of a Summary of Rights, in substantially the form attached to the Original Agreement as Exhibit C thereto (the “Original Summary of Rights”) to any holder of Rights who may have so requested. The Company will make available, as promptly as practicable following November 2, 2012 (the “Subsequent Effective Date”), a copy of a Summary of Rights To Purchase (as amended to comport with the terms of this Agreement), in substantially the form attached hereto as Exhibit C (the “Summary of Rights”) to any holder of Rights

¹ All references in this Agreement to common stock represented by certificates include common stock in book entry form.

who may so request from time to time prior to the Expiration Date. With respect to certificates for the Common Stock outstanding as of the Record Date, or issued subsequent to the Record Date, unless and until the Distribution Date shall occur, the Rights will be evidenced by such certificates for the Common Stock and the registered holders of the Common Stock shall also be the registered holders of the associated Rights. Until the earlier of the Distribution Date or the Expiration Date (as such term is defined in Section 7(a) hereof), the transfer of any certificates representing shares of Common Stock in respect of which Rights have been issued shall also constitute the transfer of the Rights associated with such shares of Common Stock.

(c) Rights shall be issued in respect of all shares of Common Stock which are issued (whether originally issued or from the Company's treasury) after the Record Date but prior to the earlier of the Distribution Date or the Expiration Date. Certificates representing such shares of Common Stock shall also be deemed to be certificates for Rights, and shall bear the following legend if such certificates are issued after the Record Date but prior to the earlier of the Distribution Date or the Expiration Date:

This certificate also evidences and entitles the holder hereof to certain Rights as set forth in the Rights Agreement between Hemispherx Biopharma, Inc. (the "Company") and the Rights Agent thereunder (the "Rights Agent") dated as of November 19, 2002 (the "Rights Agreement"), the terms of which are hereby incorporated herein by reference and a copy of which is on file at the principal offices of the Company. Under certain circumstances, as set forth in the Rights Agreement, such Rights will be evidenced by separate certificates and will no longer be evidenced by this certificate. The Company will mail to the holder of this certificate a copy of the Rights Agreement, as in effect on the date of mailing, without charge, promptly after receipt of a written request therefor. Under certain circumstances set forth in the Rights Agreement, Rights issued to, or held by, any Person who is, was or becomes an Acquiring Person or any Affiliate or Associate thereof (as such terms are defined in the Rights Agreement), whether currently held by or on behalf of such Person or by any subsequent holder, may become null and void.

Notwithstanding the foregoing, Certificates representing such shares of Common Stock shall bear the following amended legend if such certificates are issued after Subsequent Effective Date but prior to the earlier of the Distribution Date or the Expiration Date:

This certificate also evidences and entitles the holder hereof to certain Rights as set forth in the Amended and Restated Rights Agreement between Hemispherx Biopharma, Inc. (the "Company") and the Rights Agent thereunder (the "Rights Agent") dated as of November 2, 2012 (the "Rights Agreement"), the terms of which are hereby incorporated herein by reference and a copy of which is on file at the principal offices of the Company. Under certain circumstances, as set forth in the Rights Agreement, such Rights will be evidenced by separate certificates and will no longer be evidenced by this certificate. The Company will mail to the holder of this certificate a copy of the Rights Agreement, as in effect on the date of mailing, without charge, promptly after receipt of a written request therefor. Under certain circumstances set forth in the Rights Agreement, Rights issued to, or held by, any Person who is, was or becomes an Acquiring Person or any Affiliate or Associate thereof (as such terms are defined in the Rights Agreement), whether currently held by or on behalf of such Person or by any subsequent holder, may become null and void.

With respect to such certificates containing one of the foregoing legends, until the earlier of (i) the Distribution Date or (ii) the Expiration Date, the Rights associated with the Common Stock represented by such certificates shall be evidenced by such certificates alone and registered holders of Common Stock shall also be the registered holders of the associated Rights, and the transfer of any of such certificates shall also constitute the transfer of the Rights associated with the Common Stock represented by such certificates.

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Section 4. Form of Rights Certificates.

(a) The Rights Certificates (and the forms of election to purchase and of assignment to be printed on the reverse thereof) shall each be substantially in the form set forth in Exhibit B hereto and may have such marks of identification or designation and such legends, summaries or endorsements printed thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which the Rights may from time to time be listed, or to conform to usage. Subject to the provisions of Section 11 and Section 22 hereof, the Rights Certificates, whenever distributed, shall be dated as of the Record Date and on their face shall entitle the holders thereof to purchase such number of one one-hundredths of a share of Preferred Stock as shall be set forth therein at the price set forth therein (such exercise price per one one-hundredth of a share, the "Purchase Price"), but the amount and type of securities purchasable upon the exercise of each Right and the Purchase Price thereof shall be subject to adjustment as provided herein.

(b) Any Rights Certificate issued pursuant to Section 3(a), Section 11(i) or Section 22 hereof that represents Rights beneficially owned by: (i) an Acquiring Person or any Associate or Affiliate of an Acquiring Person, (ii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee after the Acquiring Person becomes such, or (iii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee prior to or concurrently with the Acquiring Person becoming such and receives such Rights pursuant to either (A) a transfer (whether or not for consideration) from the Acquiring Person to holders of equity interests in such Acquiring Person or to any Person with whom such Acquiring Person has any continuing agreement, arrangement or understanding regarding the transferred Rights or (B) a transfer which the Board of Directors of the Company has determined is part of a plan, arrangement or understanding which has as a primary purpose or effect the avoidance of Section 7(e) hereof, and any Rights Certificate issued pursuant to Section 6 or Section 11 hereof upon transfer, exchange, replacement or adjustment of any other Rights Certificate referred to in this sentence, shall contain (to the extent feasible) the following legend:

The Rights represented by this Rights Certificate are or were beneficially owned by a Person who was or became an Acquiring Person or an Affiliate or Associate of an Acquiring Person (as such terms are defined in the Rights Agreement). Accordingly, this Rights Certificate and the Rights represented hereby may become null and void in the circumstances specified in Section 7(e) of the Rights Agreement.

Section 5. Countersignature and Registration.

(a) The Rights Certificates shall be executed on behalf of the Company by its Chairman of the Board, its President or any Vice President, either manually or by facsimile signature, and shall have affixed thereto the Company's seal or a facsimile thereof which shall be attested by the Secretary or an Assistant Secretary of the Company, either manually or by facsimile signature. The Rights Certificates shall be countersigned by the Rights Agent, either manually or by

facsimile signature and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed any of the Rights Certificates shall cease to be such officer of the Company before countersignature by the Rights Agent and issuance and delivery by the Company, such Rights Certificates, nevertheless, may be countersigned by the Rights Agent and issued and delivered by the Company with the same force and effect as though the person who signed such Rights Certificates had not ceased to be such officer of the Company; and any Rights Certificates may be signed on behalf of the Company by any person who, at the actual date of the execution of such Rights Certificate, shall be a proper officer of the Company to sign such Rights Certificate, although at the date of the execution of this Rights Agreement any such person was not such an officer.

(b) Following the Distribution Date, the Rights Agent will keep, or cause to be kept, at its principal office or offices designated as the appropriate place for surrender of Rights Certificates upon exercise or transfer, books for registration and transfer of the Rights Certificates issued hereunder. Such books shall show the names and addresses of the respective holders of the Rights Certificates, the number of Rights evidenced on its face by each of the Rights Certificates and the date of each of the Rights Certificates.

Section 6. Transfer, Split-Up, Combination and Exchange of Rights Certificates; Mutilated, Destroyed, Lost or Stolen Rights Certificates.

(a) Subject to the provisions of Section 4(b), Section 7(e) and Section 14 hereof, at any time after the close of business on the Distribution Date, and at or prior to the close of business on the Expiration Date, any Rights Certificate or Certificates (other than Rights Certificates representing Rights that may have been exchanged pursuant to Section 24 hereof) may be transferred, split up, combined or exchanged for another Rights Certificate or Certificates, entitling the registered holder to purchase a like number of one one-hundredths of a share of Preferred Stock (or, following a Triggering Event, Common Stock, other securities, cash or other assets, as the case may be) as the Rights Certificate or Certificates surrendered then entitles such holder (or former holder in the case of a transfer) to purchase. Any registered holder desiring to transfer, split up, combine or exchange any Rights Certificate or Certificates shall make such request in writing delivered to the Rights Agent, and shall surrender the Rights Certificate or Certificates to be transferred, split up, combined or exchanged at the principal office or offices of the Rights Agent designated for such purpose. Neither the Rights Agent nor the Company shall be obligated to take any action whatsoever with respect to the transfer of any such surrendered Rights Certificate until the registered holder shall have completed and signed the certificate contained in the form of assignment on the reverse side of such Rights Certificate and shall have provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) or Affiliates or Associates thereof as the Company shall reasonably request. Thereupon the Rights Agent shall, subject to Section 4(b), Section 7(e), Section 14 hereof and Section 24 hereof, countersign and deliver to the Person entitled thereto a Rights Certificate or Rights Certificates, as the case may be, as so requested. The Company may require payment of a sum sufficient to cover any tax or governmental charge that may be imposed in connection with any transfer, split up, combination or exchange of Rights Certificates.

(b) Upon receipt by the Company and the Rights Agent of evidence reasonably satisfactory to them of the loss, theft, destruction or mutilation of a Rights Certificate, and, in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to them, and reimbursement to the Company and the Rights Agent of all reasonable expenses incidental thereto, and upon surrender to the Rights Agent and cancellation of the Rights Certificate, if mutilated, the Company will execute and deliver a new Rights Certificate of like tenor to the Rights Agent for countersignature and delivery to the registered owner in lieu of the Rights Certificate so lost, stolen, destroyed or mutilated.

Section 7. Exercise of Rights; Purchase Price; Expiration Date of Rights.

(a) Subject to Section 7(e) hereof, at any time after the Distribution Date the registered holder of any Rights Certificate may exercise the Rights evidenced thereby (except as otherwise provided herein including, without limitation, the restrictions on exercisability set forth in Section 9(c), Section 11(a)(iii) and Section 23(a) hereof) in whole or in part upon surrender of the Rights Certificate, with the form of election to purchase and the certificate on the reverse side thereof duly executed, to the Rights Agent at the principal office or offices of the Rights Agent designated for such purpose, together with payment of the aggregate Purchase Price with respect to the total number of one one-hundredths of a share (or other securities, cash or other assets, as the case may be) as to which such surrendered Rights are then exercisable, at or prior to the earlier of (i) 5:00 P.M., New York City time, on November 18,

2017, (or such later date as may be established by the Board of Directors prior to the expiration of the Rights) (such date the “Final Expiration Date”), or (ii) the time at which the Rights are redeemed or exchanged as provided in Section 23 and Section 24 hereof (the earlier of (i) and (ii) being herein referred to as the “Expiration Date”).

(b) The Purchase Price for each one one-hundredth of a share of Preferred Stock pursuant to the exercise of a Right initially shall be \$30.00 shall be subject to adjustment from time to time as provided in Section 11 and Section 13(a) hereof and shall be payable in accordance with paragraph (c) below.

(c) Upon receipt of a Rights Certificate representing exercisable Rights, with the form of election to purchase and the certificate duly executed, accompanied by payment, with respect to each Right so exercised, of the Purchase Price per one one-hundredth of a share of Preferred Stock (or other shares, securities, cash or other assets, as the case may be) to be purchased as set forth below and an amount equal to any applicable transfer tax, the Rights Agent shall, subject to Section 20(k) hereof, thereupon promptly (i) (A) requisition from any transfer agent of the shares of Preferred Stock (or make available, if the Rights Agent is the transfer agent for such shares) certificates for the total number of one one-hundredths of a share of Preferred Stock to be purchased and the Company hereby irrevocably authorizes its transfer agent to comply with all such requests, or (B) if the Company shall have elected to deposit the total number of shares of Preferred Stock issuable upon exercise of the Rights hereunder with a depository agent, requisition from the depository agent depository receipts representing such number of one one-hundredths of a share of Preferred Stock as are to be purchased (in which case certificates for the shares of Preferred Stock represented by such receipts shall be deposited by the transfer agent with the depository agent) and the Company will direct the depository agent to comply with such request, (ii) requisition from the Company the amount of cash, if any, to be paid in lieu of fractional shares in accordance with Section 14 hereof, (iii) after receipt of such certificates or depository receipts, cause the same to be delivered to or, upon the order of the registered holder of such Rights Certificate, registered in such name or names as may be designated by such holder, and (iv) after receipt thereof, deliver such cash, if any, to or upon the order of the registered holder of such Rights Certificate. The payment of the Purchase Price (as such amount may be reduced pursuant to Section 11(a)(iii) hereof) shall be made in cash or by certified bank check or bank draft payable to the order of the Company. In the event that the Company is obligated to issue other securities (including Common Stock) of the Company, pay cash and/or distribute other property pursuant to Section 11(a) hereof, the Company will make all arrangements necessary so that such other securities, cash and/or other property are available for distribution by the Rights Agent, if and when appropriate. The Company reserves the right to require prior to the occurrence of a Triggering Event that, upon any exercise of Rights, a number of Rights be exercised so that only whole shares of Preferred Stock would be issued.

(d) In case the registered holder of any Rights Certificate shall exercise less than all the Rights evidenced thereby, a new Rights Certificate evidencing the Rights remaining unexercised shall be issued by the Rights Agent and delivered to, or upon the order of, the registered holder of such Rights Certificate, registered in such name or names as may be designated by such holder, subject to the provisions of Section 14 hereof.

(e) Notwithstanding anything in this Agreement to the contrary, from and after the first occurrence of a Section 11(a)(ii) Event, any Rights beneficially owned by (i) an Acquiring Person or an Associate or Affiliate of an Acquiring

Person, (ii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee after the Acquiring Person becomes such, or (iii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee prior to or concurrently with the Acquiring Person becoming such and receives such Rights pursuant to either (A) a transfer (whether or not for consideration) from the Acquiring Person to holders of equity interests

in such Acquiring Person or to any Person with whom the Acquiring Person has any continuing agreement, arrangement or understanding regarding the transferred Rights or (B) a transfer which the Board of Directors of the Company have determined is part of a plan, arrangement or understanding which has as a primary purpose or effect the avoidance of this Section 7(e), shall become null and void without any further action and no holder of such Rights shall have any rights whatsoever with respect to such Rights, whether under any provision of this Agreement or otherwise. The Company shall use all reasonable efforts to insure that the provisions of this Section 7(e) and Section 4(b) hereof are complied with, but shall have no liability to any holder of Rights Certificates or any other Person as a result of its failure to make any determinations with respect to an Acquiring Person or any of its Affiliates, Associates or transferees hereunder.

(f) Notwithstanding anything in this Agreement to the contrary, neither the Rights Agent nor the Company shall be obligated to undertake any action with respect to a registered holder upon the occurrence of any purported exercise as set forth in this Section 7 unless such registered holder shall have (i) completed and signed the certificate contained in the form of election to purchase set forth on the reverse side of the Rights Certificate surrendered for such exercise, and (ii) provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) or Affiliates or Associates thereof as the Company shall reasonably request.

Section 8. Cancellation and Destruction of Rights Certificates.

All Rights Certificates surrendered for the purpose of exercise, transfer, split-up, combination or exchange shall, if surrendered to the Company or any of its agents, be delivered to the Rights Agent for cancellation or in cancelled form, or, if surrendered to the Rights Agent, shall be cancelled by it, and no Rights Certificates shall be issued in lieu thereof except as expressly permitted by any of the provisions of this Agreement. The Company shall deliver to the Rights Agent for cancellation and retirement, and the Rights Agent shall so cancel and retire, any other Rights Certificate purchased or acquired by the Company otherwise than upon the exercise thereof. The Rights Agent shall deliver all cancelled Rights Certificates to the Company, or shall, at the written request of the Company, destroy such cancelled Rights Certificates, and in such case shall deliver a certificate of destruction thereof to the Company.

Section 9. Reservation and Availability of Capital Stock.

(a) The Company covenants and agrees that it will cause to be reserved and kept available out of its authorized and unissued shares of Preferred Stock (and, following the occurrence of a Triggering Event, out of its authorized and unissued shares of Common Stock and/or other securities or out of its authorized and issued shares held in its treasury), the number of shares of Preferred Stock (and, following the occurrence of a Triggering Event, Common Stock and/or other securities) that, as provided in this Agreement including Section 11(a)(iii) hereof, will be sufficient to permit the exercise in full of all outstanding Rights.

(b) So long as the shares of Preferred Stock (and, following the occurrence of a Triggering Event, Common Stock and/or other securities) issuable and deliverable upon the exercise of the Rights may be listed on any national securities exchange, the Company shall use its best efforts to cause, from and after such time as the Rights become exercisable, all shares reserved for such issuance to be listed on such exchange upon official notice of issuance upon such exercise.

(c) The Company shall use its best efforts to (i) file, as soon as practicable following the earliest date after the first occurrence of a Section 11(a)(ii) Event on which the consideration to be delivered by the Company upon exercise of the Rights has been determined in accordance with Section 11(a)(iii) hereof, a registration statement under the Act, with respect to the securities purchasable upon

exercise of the Rights on an appropriate form, (ii) cause such registration statement to become effective as soon as practicable after such filing, and (iii) cause such registration statement to remain effective (with a prospectus at all times meeting the requirements of the Act) until the earlier of (A) the date as of which the Rights are no longer exercisable for such securities, and (B) the date of the expiration of the Rights. The Company will also take such action as may be appropriate under, or to ensure compliance with, the securities or “blue sky” laws of the various states in connection with the exercisability of the Rights. The Company may temporarily suspend, for a period of time not to exceed ninety (90) days after the date set forth in clause (i) of the first sentence of this Section 9(c), the exercisability of the Rights in order to prepare and file such registration statement and permit it to become effective. Upon any such suspension, the Company shall issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension has been rescinded. In addition, if the Company shall determine that a registration statement is required following the Distribution Date, the Company may temporarily suspend the exercisability of the Rights until such time as a registration statement has been declared effective. Notwithstanding any provision of this Agreement to the contrary, the Rights shall not be exercisable in any jurisdiction if the requisite qualification in such jurisdiction shall not have been obtained, the exercise thereof shall not be permitted under applicable law, or a registration statement shall not have been declared effective.

(d) The Company covenants and agrees that it will take all such action as may be necessary to ensure that all one one-hundredths of a share of Preferred Stock (and, following the occurrence of a Triggering Event, Common Stock and/or other securities) delivered upon exercise of Rights shall, at the time of delivery of the certificates for such shares (subject to payment of the Purchase Price), be duly and validly authorized and issued and fully paid and nonassessable.

(e) The Company further covenants and agrees that it will pay when due and payable any and all federal and state transfer taxes and charges which may be payable in respect of the issuance or delivery of the Rights Certificates and of any certificates for a number of one one-hundredths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) upon the exercise of Rights. The Company shall not, however, be required to pay any transfer tax which may be payable in respect of any transfer or delivery of Rights Certificates to a Person other than, or the issuance or delivery of a number of one one-hundredths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) in respect of a name other than that of the registered holder of the Rights Certificates evidencing Rights surrendered for exercise or to issue or deliver any certificates for a number of one one-hundredths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) in a name other than that of the registered holder upon the exercise of any Rights until such tax shall have been paid (any such tax being payable by the holder of such Rights Certificates at the time of surrender) or until it has been established to the Company's satisfaction that no such tax is due.

Section 10. Preferred Stock Record Date.

Each person in whose name any certificate for a number of one one-hundredths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) is issued upon the exercise of Rights shall for all purposes

be deemed to have become the holder of record of such fractional shares of Preferred Stock (or Common Stock and/or other securities, as the case may be) represented thereby on, and such certificate shall be dated, the date upon which the Rights Certificate evidencing such Rights was duly surrendered and payment of the Purchase Price (and all applicable transfer taxes) was made; provided, however, that if the date of such surrender and payment is a date upon which the Preferred Stock (or Common Stock and/or other securities, as the case may be) transfer books of the Company are closed, such Person shall be deemed to have become the record holder of such shares (fractional or otherwise) on, and such certificate shall be dated, the next succeeding Business Day on which the Preferred Stock (or Common Stock and/or other securities, as the case may be) transfer books of the

Company are open. Prior to the exercise of the Rights evidenced thereby, the holder of a Rights Certificate shall not be entitled to any rights of a stockholder of the Company with respect to shares for which the Rights shall be exercisable, including, without limitation, the right to vote, to receive dividends or other distributions or to exercise any preemptive rights, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided herein.

Section 11. Adjustment of Purchase Price, Number and Kind of Shares or Number of Rights.

The Purchase Price, the number and kind of shares covered by each Right and the number of Rights outstanding are subject to adjustment from time to time as provided in this Section 11.

(a) (i) In the event the Company shall at any time after the date of this Agreement (A) declare a dividend on the Preferred Stock payable in shares of Preferred Stock, (B) subdivide the outstanding Preferred Stock, (C) combine the outstanding Preferred Stock into a smaller number of shares, or (D) issue any shares of its capital stock in a reclassification of the Preferred Stock (including any such reclassification in connection with a consolidation or merger in which the Company is the continuing or surviving corporation), except as otherwise provided in this Section 11(a) and Section 7(e) hereof, the Purchase Price in effect at the time of the record date for such dividend or of the effective date of such subdivision, combination or reclassification, and the number and kind of shares of Preferred Stock or capital stock, as the case may be, issuable on such date, shall be proportionately adjusted so that the holder of any Right exercised after such time shall be entitled to receive, upon payment of the Purchase Price then in effect, the aggregate number and kind of shares of Preferred Stock or capital stock, as the case may be, which, if such Right had been exercised immediately prior to such date and at a time when the Preferred Stock transfer books of the Company were open, such holder would have owned upon such exercise and been entitled to receive by virtue of such dividend, subdivision, combination or reclassification. If an event occurs which would require an adjustment under both this Section 11(a)(i) and Section 11(a)(ii) hereof, the adjustment provided for in this Section 11(a)(i) shall be in addition to, and shall be made prior to, any adjustment required pursuant to Section 11(a)(ii) hereof.

(ii) In the event any Person shall, at any time after the Rights Dividend Declaration Date, become an Acquiring Person, unless the event causing such Person to become an Acquiring Person is a transaction set forth in Section 13(a) hereof, or is an acquisition of shares of Common Stock pursuant to a tender offer or an exchange offer for all outstanding shares of Common Stock at a price and on terms determined by the Board of Directors, after receiving advice from one or more investment banking firms, to be (a) at a price which is fair to stockholders and not inadequate (taking into account all factors which such members of the Board deem relevant, including, without limitation, prices which could reasonably be achieved if the Company or its assets were sold on an orderly basis designed to realize maximum value) and (b) otherwise in the best interests of the Company and its stockholders (a "Qualified Offer"), then, promptly following the occurrence of such event, proper provision shall be made so that each holder of a Right (except as provided below and in Section 7(e) hereof) shall thereafter have the right to receive, upon exercise thereof at the then current Purchase Price in accordance with the terms of this Agreement, in lieu of a number of one one-hundredths of a share of Preferred Stock, such number of shares of Common Stock of the Company as shall equal the result obtained by (x) multiplying the then current Purchase Price by the then number of one one-hundredths of a

share of Preferred Stock for which a Right was exercisable immediately prior to the first occurrence of a Section 11(a)(ii) Event, and (y) dividing that product (which, following such first occurrence, shall thereafter be referred to as the "Purchase Price" for each Right and for all purposes of this Agreement) by 50% of the Current Market Price (determined pursuant to Section 11(d) hereof) per share of Common Stock on the date of such first occurrence (such number of shares, the "Adjustment Shares").

(iii) In the event that the number of shares of Common Stock which is authorized by the Company's Amended and Restated Certificate of Incorporation, but not outstanding or reserved for issuance for purposes other than upon exercise of the Rights, is not sufficient to permit the exercise in full of the Rights in accordance with the foregoing subparagraph (ii) of this Section 11(a), the Company shall (A) determine the value of the Adjustment Shares issuable upon the exercise of a Right (the "Current Value"), and (B) with respect to each Right (subject to Section 7(e) hereof), make adequate provision to substitute for the Adjustment Shares, upon the exercise of a Right and payment of the applicable Purchase Price, (1) cash, (2) a reduction in the Purchase Price, (3) Common Stock or other equity securities of the Company (including, without limitation, shares, or units of shares, of preferred stock, such as the Preferred Stock, which the Board has deemed to have essentially the same value or economic rights as shares of Common Stock (such shares of preferred stock being referred to as "Common Stock Equivalents")), (4) debt securities of the Company, (5) other assets, or (6) any combination of the foregoing, having an aggregate value equal to the Current Value (less the amount of any reduction in the Purchase Price), where such aggregate value has been determined by the Board based upon the advice of a nationally recognized investment banking firm selected by the Board; provided, however, that if the Company shall not have made adequate provision to deliver value pursuant to clause (B) above within thirty (30) days following the later of (x) the first occurrence of a Section 11(a)(ii) Event and (y) the date on which the Company's right of redemption pursuant to Section 23(a) expires (the later of (x) and (y) being referred to herein as the "Section 11(a)(ii) Trigger Date"), then the Company shall be obligated to deliver, upon the surrender for exercise of a Right and without requiring payment of the Purchase Price, shares of Common Stock (to the extent available) and then, if necessary, cash, which shares and/or cash have an aggregate value equal to the Spread. For purposes of the preceding sentence, the term "Spread" shall mean the excess of (i) the Current Value over (ii) the Purchase Price. If the Board determines in good faith that it is likely that sufficient additional shares of Common Stock could be authorized for issuance upon exercise in full of the Rights, the thirty (30) day period set forth above may be extended to the extent necessary, but not more than ninety (90) days after the Section 11(a)(ii) Trigger Date, in order that the Company may seek shareholder approval for the authorization of such additional shares (such thirty (30) day period, as it may be extended, is herein called the "Substitution Period"). To the extent that the Company determines that action should be taken pursuant to the first and/or third sentences of this Section 11(a)(iii), the Company (1) shall provide, subject to Section 7(e) hereof, that such action shall apply uniformly to all outstanding Rights, and (2) may suspend the exercisability of the Rights until the expiration of the Substitution Period in order to seek such shareholder approval for such authorization of additional shares and/or to decide the appropriate form of distribution to be made pursuant to such first sentence and to determine the value thereof. In the event of any such suspension, the Company shall issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect. For purposes of this Section 11(a)(iii), the value of each Adjustment Share shall be the Current Market Price per share of the Common Stock on the Section 11(a)(ii) Trigger Date and the per share or per unit value of any Common Stock Equivalent shall be deemed to equal the Current Market Price per share of the Common Stock on such date.

(b) In case the Company shall fix a record date for the issuance of rights, options or warrants to all holders of Preferred Stock entitling them to subscribe for or purchase (for a period expiring within forty-five (45) calendar days after such record date) Preferred Stock (or shares having the same rights, privileges and preferences as the shares of Preferred Stock ("Equivalent Preferred Stock")) or securities convertible into Preferred Stock or Equivalent Preferred Stock at a price per share of Preferred Stock or per share of Equivalent Preferred Stock (or having a conversion price per share, if a security convertible into Preferred Stock or Equivalent Preferred Stock) less than the Current Market Price (as determined

pursuant to Section 11(d) hereof) per share of Preferred Stock on such record date, the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which shall be the number of shares of Preferred Stock outstanding on such record date, plus the number of shares of Preferred Stock which the aggregate offering price of the total number of shares of Preferred Stock and/or Equivalent Preferred Stock so to be offered (and/or the aggregate initial conversion price of the convertible securities so to be offered) would purchase at such Current Market Price, and the denominator of which shall be the number of shares of Preferred Stock outstanding on such record date, plus the number of additional shares of Preferred Stock and/or Equivalent Preferred Stock to be offered for subscription or purchase (or into which the convertible securities so to be offered are initially convertible). In case such subscription price may be paid by delivery of consideration, part or all of which may be in a form other than cash, the value of such consideration shall be as determined in good faith by the Board of Directors of the Company, whose determination shall be described in a statement filed with the Rights Agent and shall be binding on the Rights Agent and the holders of the Rights. Shares of Preferred Stock owned by or held for the account of the Company shall not be deemed outstanding for the purpose of any such computation. Such adjustment shall be made successively whenever such a record date is fixed, and in the event that such rights or warrants are not so issued, the Purchase Price shall be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(c) In case the Company shall fix a record date for a distribution to all holders of Preferred Stock (including any such distribution made in connection with a consolidation or merger in which the Company is the continuing corporation) of evidences of indebtedness, cash (other than a regular quarterly cash dividend out of the earnings or retained earnings of the Company), assets (other than a dividend payable in Preferred Stock, but including any dividend payable in stock other than Preferred Stock) or subscription rights or warrants (excluding those referred to in Section 11(b) hereof), the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which shall be the Current Market Price (as determined pursuant to Section 11(d) hereof) per share of Preferred Stock on such record date, less the fair market value (as determined in good faith by the Board of Directors of the Company, whose determination shall be described in a statement filed with the Rights Agent) of the portion of the cash, assets or evidences of indebtedness so to be distributed or of such subscription rights or warrants applicable to a share of Preferred Stock, and the denominator of which shall be such Current Market Price (as determined pursuant to Section 11(d) hereof) per share of Preferred Stock. Such adjustments shall be made successively whenever such a record date is fixed, and in the event that such distribution is not so made, the Purchase Price shall be adjusted to be the Purchase Price which would have been in effect if such record date had not been fixed.

(d) b) For the purpose of any computation hereunder, other than computations made pursuant to Section 11(a)(iii) hereof, the Current Market Price per share of Common Stock on any date shall be deemed to be the average of the daily closing prices per share of such Common Stock for the thirty (30) consecutive Trading Days immediately prior to such date, and for purposes of computations made pursuant to Section 11(a)(iii) hereof, the Current Market Price per share of Common Stock on any date shall be deemed to be the average of the daily closing prices per share of such Common Stock for the ten (10) consecutive Trading Days immediately following such date; provided, however, that in the event that the Current Market Price per share of the Common Stock is determined during a period following the announcement by the issuer of such Common Stock of (A) a dividend or distribution on such Common Stock payable in shares of such Common Stock or securities convertible into shares of such Common Stock (other than the Rights), or (B) any subdivision, combination or reclassification of such Common Stock, and the ex-dividend date for such dividend or distribution, or the record date for such subdivision, combination or reclassification shall not have

occurred prior to the commencement of the requisite thirty (30) Trading Day or ten (10) Trading Day period, as set forth above, then, and in each such case, the

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Current Market Price shall be properly adjusted to take into account ex-dividend trading. The closing price for each day shall be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the New York Stock Exchange or, if the shares of Common Stock are not listed or admitted to trading on the New York Stock Exchange, as reported in the principal consolidated transaction reporting system with respect to securities listed on the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading or, if the shares of Common Stock are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported by the NASDAQ Stock Market LLC or such other system then in use, or, if on any such date the shares of Common Stock are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Common Stock selected by the Board. If on any such date no market maker is making a market in the Common Stock, the fair value of such shares on such date as determined in good faith by the Board shall be used. The term "Trading Day" shall mean a day on which the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading is open for the transaction of business or, if the shares of Common Stock are not listed or admitted to trading on any national securities exchange, a Business Day. If the Common Stock is not publicly held or not so listed or traded, Current Market Price per share shall mean the fair value per share as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes.

(ii) For the purpose of any computation hereunder, the Current Market Price per share of Preferred Stock shall be determined in the same manner as set forth above for the Common Stock in clause (i) of this Section 11(d) (other than the last sentence thereof). If the Current Market Price per share of Preferred Stock cannot be determined in the manner provided above or if the Preferred Stock is not publicly held or listed or traded in a manner described in clause (i) of this Section 11(d), the Current Market Price per share of Preferred Stock shall be conclusively deemed to be an amount equal to 100 (as such number may be appropriately adjusted for such events as stock splits, stock dividends and recapitalizations with respect to the Common Stock occurring after the date of this Agreement) multiplied by the Current Market Price per share of the Common Stock. If neither the Common Stock nor the Preferred Stock is publicly held or so listed or traded, Current Market Price per share of the Preferred Stock shall mean the fair value per share as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes.

(e) Anything herein to the contrary notwithstanding, no adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least one percent (1%) in the Purchase Price; provided, however, that any adjustments which by reason of this Section 11(e) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 11 shall be made to the nearest cent or to the nearest ten-thousandth of a share of Common Stock or other share or one-millionth of a share of Preferred Stock, as the case may be. Notwithstanding the first sentence of this Section 11(e), any adjustment required by this Section 11 shall be made no later than the earlier of (i) three (3) years from the date of the transaction which mandates such adjustment, or (ii) the Expiration Date.

(f) If as a result of an adjustment made pursuant to Section 11(a)(ii) or Section 13(a) hereof, the holder of any Right thereafter exercised shall become entitled to receive any shares of capital stock other than Preferred Stock, thereafter the number of such other shares so receivable upon exercise of any Right and the Purchase Price thereof shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Preferred Stock contained in

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Sections 11(a), (b), (c), (e), (g), (h), (i), (j), (k) and (m), and the provisions of Sections 7, 9, 10, 13 and 14 hereof with respect to the Preferred Stock shall apply on like terms to any such other shares.

(g) All Rights originally issued by the Company subsequent to any adjustment made to the Purchase Price hereunder shall evidence the right to purchase, at the adjusted Purchase Price, the number of one one-hundredths of a share of Preferred Stock purchasable from time to time hereunder upon exercise of the Rights, all subject to further adjustment as provided herein.

(h) Unless the Company shall have exercised its election as provided in Section 11(i), upon each adjustment of the Purchase Price as a result of the calculations made in Sections 11(b) and (c), each Right outstanding immediately prior to the making of such adjustment shall thereafter evidence the right to purchase, at the adjusted Purchase Price, that number of one one-hundredths of a share of Preferred Stock (calculated to the nearest one-millionth) obtained by (i) multiplying (x) the number of one one-hundredths of a share covered by a Right immediately prior to this adjustment, by (y) the Purchase Price in effect immediately prior to such adjustment of the Purchase Price, and (ii) dividing the product so obtained by the Purchase Price in effect immediately after such adjustment of the Purchase Price.

(i) The Company may elect on or after the date of any adjustment of the Purchase Price to adjust the number of Rights, in lieu of any adjustment in the number of one one-hundredths of a share of Preferred Stock purchasable upon the exercise of a Right. Each of the Rights outstanding after the adjustment in the number of Rights shall be exercisable for the number of one one-hundredths of a share of Preferred Stock for which a Right was exercisable immediately prior to such adjustment. Each Right held of record prior to such adjustment of the number of Rights shall become that number of Rights (calculated to the nearest one-ten-thousandth) obtained by dividing the Purchase Price in effect immediately prior to adjustment of the Purchase Price by the Purchase Price in effect immediately after adjustment of the Purchase Price. The Company shall make a public announcement of its election to adjust the number of Rights, indicating the record date for the adjustment, and, if known at the time, the amount of the adjustment to be made. This record date may be the date on which the Purchase Price is adjusted or any day thereafter, but, if the Rights Certificates have been issued, shall be at least ten (10) days later than the date of the public announcement. If Rights Certificates have been issued, upon each adjustment of the number of Rights pursuant to this Section 11(i), the Company shall, as promptly as practicable, cause to be distributed to holders of record of Rights Certificates on such record date Rights Certificates evidencing, subject to Section 14 hereof, the additional Rights to which such holders shall be entitled as a result of such adjustment, or, at the option of the Company, shall cause to be distributed to such holders of record in substitution and replacement for the Rights Certificates held by such holders prior to the date of adjustment, and upon surrender thereof, if required by the Company, new Rights Certificates evidencing all the Rights to which such holders shall be entitled after such adjustment. Rights Certificates so to be distributed shall be issued, executed and countersigned in the manner provided for herein (and may bear, at the option of the Company, the adjusted Purchase Price) and shall be registered in the names of the holders of record of Rights Certificates on the record date specified in the public announcement.

(j) Irrespective of any adjustment or change in the Purchase Price or the number of one one-hundredths of a share of Preferred Stock issuable upon the exercise of the Rights, the Rights Certificates theretofore and thereafter issued may

continue to express the Purchase Price per one one-hundredth of a share and the number of one one-hundredth of a share which were expressed in the initial Rights Certificates issued hereunder.

(k) Before taking any action that would cause an adjustment reducing the Purchase Price below the then stated value, if any, of the number of one one-hundredths of a share of Preferred Stock issuable upon exercise of the Rights, the Company shall take any corporate action which may, in the

opinion of its counsel, be necessary in order that the Company may validly and legally issue fully paid and nonassessable such number of one one-hundredths of a share of Preferred Stock at such adjusted Purchase Price.

(l) In any case in which this Section 11 shall require that an adjustment in the Purchase Price be made effective as of a record date for a specified event, the Company may elect to defer until the occurrence of such event the issuance to the holder of any Right exercised after such record date the number of one one-hundredths of a share of Preferred Stock and other capital stock or securities of the Company, if any, issuable upon such exercise over and above the number of one one-hundredths of a share of Preferred Stock and other capital stock or securities of the Company, if any, issuable upon such exercise on the basis of the Purchase Price in effect prior to such adjustment; provided, however, that the Company shall deliver to such holder a due bill or other appropriate instrument evidencing such holder's right to receive such additional shares (fractional or otherwise) or securities upon the occurrence of the event requiring such adjustment.

(m) Anything in this Section 11 to the contrary notwithstanding, the Company shall be entitled to make such reductions in the Purchase Price, in addition to those adjustments expressly required by this Section 11, as and to the extent that in their good faith judgment the Board of Directors of the Company shall determine to be advisable in order that any (i) consolidation or subdivision of the Preferred Stock, (ii) issuance wholly for cash of any shares of Preferred Stock at less than the Current Market Price, (iii) issuance wholly for cash of shares of Preferred Stock or securities which by their terms are convertible into or exchangeable for shares of Preferred Stock, (iv) stock dividends or (v) issuance of rights, options or warrants referred to in this Section 11, hereafter made by the Company to holders of its Preferred Stock shall not be taxable to such stockholders.

(n) The Company covenants and agrees that it shall not, at any time after the Distribution Date, (i) consolidate with any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), (ii) merge with or into any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), or (iii) sell or transfer (or permit any Subsidiary to sell or transfer), in one transaction, or a series of related transactions, assets, cash flow or earning power aggregating more than 50% of the assets or earning power of the Company and its Subsidiaries (taken as a whole) to any other Person or Persons (other than the Company and/or any of its Subsidiaries in one or more transactions each of which complies with Section 11(o) hereof), if (x) at the time of or immediately after such consolidation, merger or sale there are any rights, warrants or other instruments or securities outstanding or agreements in effect which would substantially diminish or otherwise eliminate the benefits intended to be afforded by the Rights or (y) prior to, simultaneously with or immediately after such consolidation, merger or sale, the shareholders of the Person who constitutes, or would constitute, the "Principal Party" for purposes of Section 13(a) hereof shall have received a distribution of Rights previously owned by such Person or any of its Affiliates and Associates.

(o) The Company covenants and agrees that, after the Distribution Date, it will not, except as permitted by Section 23 or Section 26 hereof, take (or permit any Subsidiary to take) any action if at the time such action is taken it is reasonably foreseeable that such action will diminish substantially or otherwise eliminate the benefits intended to be afforded by the Rights.

(p) Anything in this Agreement to the contrary notwithstanding, in the event that the Company shall at any time after the Rights Dividend Declaration Date and prior to the Distribution Date (i) declare a dividend on the outstanding shares of Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding shares of Common Stock, or (iii) combine the outstanding shares of Common Stock into a smaller number of shares, the number of Rights associated with each share of

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Common Stock then outstanding, or issued or delivered thereafter but prior to the Distribution Date, shall be proportionately adjusted so that the number of Rights thereafter associated with each share of Common Stock following any such event shall equal the result obtained by multiplying the number of Rights associated with each share of Common Stock immediately prior to such event by a fraction the numerator which shall be the total number of shares of Common Stock outstanding immediately prior to the occurrence of the event and the denominator of which shall be the total number of shares of Common Stock outstanding immediately following the occurrence of such event.

Section 12. Certificate of Adjusted Purchase Price or Number of Shares.

Whenever an adjustment is made as provided in Section 11 and Section 13 hereof, the Company shall (a) promptly prepare a certificate setting forth such adjustment and a brief statement of the facts accounting for such adjustment, (b) promptly file with the Rights Agent, and with each transfer agent for the Preferred Stock and the Common Stock, a copy of such certificate and (c) if a Distribution Date has occurred, mail a brief summary thereof to each holder of a Rights Certificate (or, if prior to the Distribution Date, to each holder of a Certificate representing shares of Common Stock) in accordance with Section 25 hereof. The Rights Agent shall be fully protected in relying on any such certificate and on any adjustment therein contained.

Section 13. Consolidation, Merger or Sale or Transfer of Assets Cash Flow or Earning Power.

(a) In the event that, following the Stock Acquisition Date, directly or indirectly, (x) the Company shall consolidate with, or merge with and into, any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), and the Company shall not be the continuing or surviving corporation of such consolidation or merger, (y) any Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof) shall consolidate with, or merge with or into, the Company, and the Company shall be the continuing or surviving corporation of such consolidation or merger and, in connection with such consolidation or merger, all or part of the outstanding shares of Common Stock shall be changed into or exchanged for stock or other securities of any other Person or cash or any other property, or (z) the Company shall sell or otherwise transfer (or one or more of its Subsidiaries shall sell or otherwise transfer), in one transaction or a series of related transactions, assets, cash flow or earning power aggregating more than 50% of the assets, cash flow or earning power of the Company and its Subsidiaries (taken as a whole) to any Person or Persons (other than the Company or any Subsidiary of the Company in one or more transactions each of which complies with Section 11(o) hereof), then, and in each such case (except as may be contemplated by Section 13(d) hereof), proper provision shall be made so that: (i) each holder of a Right, except as provided in Section 7(e) hereof, shall thereafter have the right to receive, upon the exercise thereof at the then current Purchase Price in accordance with the terms of this Agreement, such number of validly authorized and issued, fully paid, non-assessable and freely tradeable shares of Common Stock of the Principal Party (as such term is hereinafter defined), not subject to any liens, encumbrances, rights of first refusal or other adverse claims, as shall be equal to the result obtained by (1) multiplying the then current Purchase Price by the number of one one-hundredths of a share of Preferred Stock for which a Right is exercisable immediately prior to the first occurrence of a Section 13 Event (or, if a Section 11(a)(ii) Event has occurred prior to the first occurrence of a Section 13 Event,

multiplying the number of such one one-hundredths of a share for which a Right was exercisable immediately prior to the first occurrence of a Section 11(a)(ii) Event by the Purchase Price in effect immediately prior to such first occurrence of a Section 11(a)(ii) Event), and (2) dividing that product (which, following the first occurrence of a Section 13 Event, shall be referred to as the "Purchase Price" for each Right and for all purposes of this Agreement) by 50% of the Current Market Price (determined pursuant to Section 11(d)(i) hereof) per share of the Common Stock of such Principal Party on the date of consummation of such Section 13

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Event; (ii) such Principal Party shall thereafter be liable for, and shall assume, by virtue of such Section 13 Event, all the obligations and duties of the Company pursuant to this Agreement; (iii) the term “Company” shall thereafter be deemed to refer to such Principal Party, it being specifically intended that the provisions of Section 11 hereof shall apply only to such Principal Party following the first occurrence of a Section 13 Event; (iv) such Principal Party shall take such steps (including, but not limited to, the reservation of a sufficient number of shares of its Common Stock) in connection with the consummation of any such transaction as may be necessary to assure that the provisions hereof shall thereafter be applicable, as nearly as reasonably may be, in relation to its shares of Common Stock thereafter deliverable upon the exercise of the Rights; and (v) the provisions of Section 11(a)(ii) hereof shall be of no effect following the first occurrence of any Section 13 Event.

(b) “Principal Party” shall mean: (i) in the case of any transaction described in clause (x) or (y) of the first sentence of Section 13(a), the Person that is the issuer of any securities into which shares of Common Stock of the Company are converted in such merger or consolidation, and if no securities are so issued, the Person that is the other party to such merger or consolidation; and

(i) in the case of any transaction described in clause (z) of the first sentence of Section 13(a), the Person that is the party receiving the greatest portion of the assets, cash flow or earning power transferred pursuant to such transaction or transactions; provided, however, that in any such case, (1) if the Common Stock of such Person is not at such time and has not been continuously over the preceding twelve (12) month period registered under Section 12 of the Exchange Act, and such Person is a direct or indirect Subsidiary of another Person the Common Stock of which is and has been so registered, “Principal Party” shall refer to such other Person; and (2) in case such Person is a Subsidiary, directly or indirectly, of more than one Person, the Common Stock of two or more of which are and have been so registered, “Principal Party” shall refer to whichever of such Persons is the issuer of the Common Stock having the greatest aggregate market value.

(c) The Company shall not consummate any such consolidation, merger, sale or transfer unless the Principal Party shall have a sufficient number of authorized shares of its Common Stock which have not been issued or reserved for issuance to permit the exercise in full of the Rights in accordance with this Section 13 and unless prior thereto the Company and such Principal Party shall have executed and delivered to the Rights Agent a supplemental agreement providing for the terms set forth in paragraphs (a) and (b) of this Section 13 and further providing that, as soon as practicable after the date of any consolidation, merger or sale of assets mentioned in paragraph (a) of this Section 13, the Principal Party will (i) prepare and file a registration statement under the Act, with respect to the Rights and the securities purchasable upon exercise of the Rights on an appropriate form, and will use its best efforts to cause such registration statement to (A) become effective as soon as practicable after such filing and (B) remain effective (with a prospectus at all times meeting the requirements of the Act) until the Expiration Date; and (ii) take all such other action as may be necessary to enable the Principal Party to issue the securities purchasable upon exercise of the Rights, including but not limited to the registration or qualification of such securities under all requisite securities laws of jurisdictions of the various states and the listing of such securities on such exchanges and trading markets as may be necessary or appropriate; and (iii) will deliver to holders of the Rights historical financial statements for the Principal Party and each of its Affiliates which comply in all respects with the requirements for registration on Form 10 under the Exchange Act.

The provisions of this Section 13 shall similarly apply to successive mergers or consolidations or sales or other transfers. In the event that a Section 13 Event shall occur at any time after the occurrence of a Section 11(a)(ii) Event, the Rights which have not theretofore been exercised shall thereafter become exercisable in the manner described in Section 13(a).

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(d) Notwithstanding anything in this Agreement to the contrary, Section 13 shall not be applicable to a transaction described in subparagraphs (x) and (y) of Section 13(a) if (i) such transaction is consummated with a Person or Persons who acquired shares of Common Stock pursuant to a tender offer or exchange offer for all outstanding shares of Common Stock which is a Qualified Offer as such term is defined in Section 11(a)(ii)(B) hereof (or a wholly owned subsidiary of any such Person or Persons), (ii) the price per share of Common Stock offered in such transaction is not less than the price per share of Common Stock paid to all holders of shares of Common Stock whose shares were purchased pursuant to such tender offer or exchange offer and (iii) the form of consideration being offered to the remaining holders of shares of Common Stock pursuant to such transaction is the same as the form of consideration paid pursuant to such tender offer or exchange offer. Upon consummation of any such transaction contemplated by this Section 13(d), all Rights hereunder shall expire.

Section 14. Fractional Rights and Fractional Shares.

(a) The Company shall not be required to issue fractions of Rights, except prior to the Distribution Date as provided in Section 11(p) hereof, or to distribute Rights Certificates which evidence fractional Rights. In lieu of such fractional Rights, the Company shall pay to the registered holders of the Rights Certificates with regard to which such fractional Rights would otherwise be issuable, an amount in cash equal to the same fraction of the current market value of a whole Right. For purposes of this Section 14(a), the current market value of a whole Right shall be the closing price of the Rights for the Trading Day immediately prior to the date on which such fractional Rights would have been otherwise issuable. The closing price of the Rights for any day shall be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the New York Stock Exchange or, if the Rights are not listed or admitted to trading on the New York Stock Exchange, as reported in the principal consolidated transaction reporting system with respect to securities listed on the principal national securities exchange on which the Rights are listed or admitted to trading, or if the Rights are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported by the NASDAQ Stock Market LLC or such other system then in use or, if on any such date the Rights are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Rights, selected by the Board of Directors of the Company. If on any such date no such market maker is making a market in the Rights, the fair value of the Rights on such date as determined in good faith by the Board of Directors of the Company shall be used.

(b) The Company shall not be required to issue fractions of shares of Preferred Stock (other than fractions which are integral multiples of one one-hundredth of a share of Preferred Stock) upon exercise of the Rights or to distribute certificates which evidence fractional shares of Preferred Stock (other than fractions which are integral multiples of one one-hundredth of a share of Preferred Stock). In lieu of fractional shares of Preferred Stock that are not integral multiples of one one-hundredth of a share of Preferred Stock, the Company may pay to the registered holders of Rights Certificates at the time such Rights are exercised as herein provided an amount in cash equal to the same fraction of the current market value of one one-hundredth of a share of Preferred Stock. For purposes of this Section 14(b), the current market value of one one-hundredth of a share of Preferred Stock shall be one one-hundredth of the closing price of a share of Preferred Stock (as determined pursuant to Section 11(d)(ii) hereof) for the Trading Day

immediately prior to the date of such exercise.

(c) Following the occurrence of a Triggering Event, the Company shall not be required to issue fractions of shares of Common Stock upon exercise of the Rights or to distribute certificates which evidence fractional shares of Common Stock. In lieu of fractional shares of Common Stock, the Company

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may pay to the registered holders of Rights Certificates at the time such Rights are exercised as herein provided an amount in cash equal to the same fraction of the current market value of one (1) share of Common Stock. For purposes of this Section 14(c), the current market value of one share of Common Stock shall be the closing price per share of Common Stock (as determined pursuant to Section 11(d)(i) hereof) on the Trading Day immediately prior to the date of such exercise.

(d) The holder of a Right by the acceptance of the Rights expressly waives his right to receive any fractional Rights or any fractional shares upon exercise of a Right, except as permitted by this Section 14.

Section 15. Rights of Action.

All rights of action in respect of this Agreement are vested in the respective registered holders of the Rights Certificates (and, prior to the Distribution Date, the registered holders of the Common Stock); and any registered holder of any Rights Certificate (or, prior to the Distribution Date, of the Common Stock), without the consent of the Rights Agent or of the holder of any other Rights Certificate (or, prior to the Distribution Date, of the Common Stock), may, in his own behalf and for his own benefit, enforce, and may institute and maintain any suit, action or proceeding against the Company to enforce, or otherwise act in respect of, his right to exercise the Rights evidenced by such Rights Certificate in the manner provided in such Rights Certificate and in this Agreement. Without limiting the foregoing or any remedies available to the holders of Rights, it is specifically acknowledged that the holders of Rights would not have an adequate remedy at law for any breach of this Agreement and shall be entitled to specific performance of the obligations hereunder and injunctive relief against actual or threatened violations of the obligations hereunder of any Person subject to this Agreement.

Section 16. Agreement of Rights Holders.

Every holder of a Right by accepting the same consents and agrees with the Company and the Rights Agent and with every other holder of a Right that:

(a) prior to the Distribution Date, the Rights will be transferable only in connection with the transfer of Common Stock;

(b) after the Distribution Date, the Rights Certificates are transferable only on the registry books of the Rights Agent if surrendered at the principal office or offices of the Rights Agent designated for such purposes, duly endorsed or accompanied by a proper instrument of transfer and with the appropriate forms and certificates fully executed;

(c) subject to Section 6(a) and Section 7(f) hereof, the Company and the Rights Agent may deem and treat the person in whose name a Rights Certificate (or, prior to the Distribution Date, the associated Common Stock certificate) is registered as the absolute owner thereof and of the Rights evidenced thereby (notwithstanding any notations of ownership or writing on the Rights Certificates or the associated Common Stock certificate made by anyone other than the Company or the Rights Agent) for all purposes whatsoever, and neither the Company nor the Rights Agent, subject to the last sentence of Section 7(e) hereof, shall be required to be affected by any notice to the contrary; and

(d) notwithstanding anything in this Agreement to the contrary, neither the Company nor the Rights Agent shall have any liability to any holder of a Right or other Person as a result of its inability to perform any of its obligations under this Agreement by reason of any preliminary or permanent injunction or other order, decree or ruling issued by a court of competent jurisdiction or by a governmental, regulatory or administrative agency or commission, or any statute, rule, regulation or executive order

promulgated or enacted by any governmental authority, prohibiting or otherwise restraining performance of such obligation; provided, however, the Company must use its best efforts to have any such order, decree or ruling lifted or otherwise overturned as soon as possible.

Section 17. Rights Certificate Holder Not Deemed a Stockholder.

No holder, as such, of any Rights Certificate shall be entitled to vote, receive dividends or be deemed for any purpose the holder of the number of one one-hundredths of a share of Preferred Stock or any other securities of the Company which may at any time be issuable on the exercise of the Rights represented thereby, nor shall anything contained herein or in any Rights Certificate be construed to confer upon the holder of any Rights Certificate, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting stockholders (except as provided in Section 25 hereof), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by such Rights Certificate shall have been exercised in accordance with the provisions hereof.

Section 18. Concerning the Rights Agent.

(a) The Company agrees to pay to the Rights Agent reasonable compensation for all services rendered by it hereunder and, from time to time, on demand of the Rights Agent, its reasonable expenses and counsel fees and disbursements and other disbursements incurred in the administration and execution of this Agreement and the exercise and performance of its duties hereunder. The Company also agrees to indemnify the Rights Agent for, and to hold it harmless against, any loss, liability, or expense, incurred without gross negligence, bad faith or willful misconduct on the part of the Rights Agent, for anything done or omitted by the Rights Agent in connection with the acceptance and administration of this Agreement, including the costs and expenses of defending against any claim of liability in the premises.

(b) The Rights Agent shall be protected and shall incur no liability for or in respect of any action taken, suffered or omitted by it in connection with its administration of this Agreement in reliance upon any Rights Certificate or certificate for Common Stock or for other securities of the Company, instrument of assignment or transfer, power of attorney, endorsement, affidavit, letter, notice, direction, consent, certificate, statement, or other paper or document believed by it to be genuine and to be signed, executed and, where necessary, verified or acknowledged, by the proper Person or Persons.

Section 19. Merger or Consolidation or Change of Name of Rights Agent.

(a) Any corporation into which the Rights Agent or any successor Rights Agent may be merged or with which it may be consolidated, or any corporation resulting from any merger or consolidation to which the Rights Agent or any successor Rights Agent shall be a party, or any corporation succeeding to the corporate trust, stock transfer or other shareholder services business of the Rights Agent or any successor Rights Agent, shall be the successor to the Rights Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto; but only if such corporation would be eligible for appointment as a successor Rights Agent under the provisions of Section 21 hereof. In case at the time such successor Rights Agent shall succeed to the agency created by this Agreement, any of the Rights Certificates shall have been countersigned but not delivered, any such successor Rights Agent may adopt the countersignature of a predecessor Rights Agent and deliver such Rights Certificates so counter-signed; and in case at that time any of the Rights Certificates shall not have been countersigned, any successor Rights Agent may countersign such Rights Certificates either in the name of the predecessor or in the name of the successor Rights Agent; and in all

such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

(b) In case at any time the name of the Rights Agent shall be changed and at such time any of the Rights Certificates shall have been countersigned but not delivered, the Rights Agent may adopt the countersignature under its prior name and deliver Rights Certificates so countersigned; and in case at that time any of the Rights Certificates shall not have been countersigned, the Rights Agent may countersign such Rights Certificates either in its prior name or in its changed name; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

Section 20. Duties of Rights Agent.

The Rights Agent undertakes the duties and obligations imposed by this Agreement upon the following terms and conditions, by all of which the Company and the holders of Rights Certificates, by their acceptance thereof, shall be bound:

(a) The Rights Agent may consult with legal counsel (who may be legal counsel for the Company), and the opinion of such counsel shall be full and complete authorization and protection to the Rights Agent as to any action taken or omitted by it in good faith and in accordance with such opinion.

(b) Whenever in the performance of its duties under this Agreement the Rights Agent shall deem it necessary or desirable that any fact or matter (including, without limitation, the identity of any Acquiring Person and the determination of Current Market Price) be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a certificate signed by the Chairman of the Board, the President, any Vice President, the Treasurer, any Assistant Treasurer, the Secretary or any Assistant Secretary of the Company and delivered to the Rights Agent; and such certificate shall be full authorization to the Rights Agent for any action taken or suffered in good faith by it under the provisions of this Agreement in reliance upon such certificate.

(c) The Rights Agent shall be liable hereunder only for its own gross negligence, bad faith or willful misconduct.

(d) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Rights Certificates or be required to verify the same (except as to its countersignature on such Rights Certificates), but all such statements and recitals are and shall be deemed to have been made by the Company

only.

(e) The Rights Agent shall not be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution hereof by the Rights Agent) or in respect of the validity or execution of any Rights Certificate (except its countersignature thereof); nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in any Rights Certificate; nor shall it be responsible for any adjustment required under the provisions of Section 11, Section 13 or Section 24 hereof or responsible for the manner, method or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment (except with respect to the exercise of Rights evidenced by Rights Certificates after actual notice of any such adjustment); nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock or Preferred Stock to be issued pursuant to this Agreement or any Rights Certificate or as to whether any shares of Common Stock or Preferred Stock will, when so issued, be validly authorized and issued, fully paid and nonassessable.

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(f) The Company agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of the provisions of this Agreement.

(g) The Rights Agent is hereby authorized and directed to accept instructions with respect to the performance of its duties hereunder from the Chairman of the Board, the President, any Vice President, the Secretary, any Assistant Secretary, the Treasurer or any Assistant Treasurer of the Company, and to apply to such officers for advice or instructions in connection with its duties, and it shall not be liable for any action taken or suffered to be taken by it in good faith in accordance with instructions of any such officer.

(h) The Rights Agent and any stockholder, director, officer or employee of the Rights Agent may buy, sell or deal in any of the Rights or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent from acting in any other capacity for the Company or for any other legal entity.

(i) The Rights Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its attorneys or agents, and the Rights Agent shall not be answerable or accountable for any act, default, neglect or misconduct of any such attorneys or agents or for any loss to the Company resulting from any such act, default, neglect or misconduct; provided, however, reasonable care was exercised in the selection and continued employment thereof.

(j) No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of its rights if there shall be reasonable grounds for believing that repayment of such funds or adequate indemnification against such risk or liability is not reasonably assured to it.

(k) If, with respect to any Rights Certificate surrendered to the Rights Agent for exercise or transfer, the certificate attached to the form of assignment or form of election to purchase, as the case may be, has either not been completed or indicates an affirmative response to clause 1 and/or 2 thereof, the Rights Agent shall not take any further action with respect to such requested exercise or transfer without first consulting with the Company.

Section 21. Change of Rights Agent.

The Rights Agent or any successor Rights Agent may resign and be discharged from its duties under this Agreement upon thirty (30) days' notice in writing mailed to the Company, and to each transfer agent of the Common Stock and Preferred Stock, by registered or certified mail, and, if such resignation occurs after the Distribution Date, to the registered holders of the Rights Certificates by first-class mail. The Company may remove the Rights Agent or any successor Rights Agent upon thirty (30) days' notice in writing, mailed to the Rights Agent or successor Rights Agent, as the case may be, and to each transfer agent of the Common Stock and Preferred Stock, by registered or certified mail, and, if such removal occurs after the Distribution Date, to the holders of the Rights Certificates by first-class mail. If the Rights Agent shall resign or be removed or shall otherwise become incapable of acting, the Company shall appoint a successor to the Rights Agent. If the Company shall fail to make such appointment within a period of thirty (30) days after giving notice of such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Rights Agent or by the holder of a Rights

Certificate (who shall, with such notice, submit his Rights Certificate for inspection by the Company), then any registered holder of any Rights Certificate may apply to any court of competent jurisdiction for the appointment of a new Rights Agent. Any successor Rights Agent, whether appointed by the Company or by such a court, shall be (a) a legal business entity organized and doing business under the laws of the United States or of the State of New York or of any other state of the United States, in good standing, having an office in the State of New York, which is authorized under such laws to exercise corporate trust, stock transfer or shareholder services powers and which has at the time of its appointment as Rights Agent a combined capital and surplus of at least \$25,000,000 or (b) an affiliate of a legal business entity described in clause (a) of this sentence. After appointment, the successor Rights Agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named as Rights Agent without further act or deed; but the predecessor Rights Agent shall deliver and transfer to the successor Rights Agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act or deed necessary for the purpose. Not later than the effective date of any such appointment, the Company shall file notice thereof in writing with the predecessor Rights Agent and each transfer agent of the Common Stock and the Preferred Stock, and, if such appointment occurs after the Distribution Date, mail a notice thereof in writing to the registered holders of the Rights Certificates. Failure to give any notice provided for in this Section 21, however, or any defect therein, shall not affect the legality or validity of the resignation or removal of the Rights Agent or the appointment of the successor Rights Agent, as the case may be.

Section 22. Issuance of New Rights Certificates.

Notwithstanding any of the provisions of this Agreement or of the Rights to the contrary, the Company may, at its option, issue new Rights Certificates evidencing Rights in such form as may be approved by the Board of Directors to reflect any adjustment or change in the Purchase Price and the number or kind or class of shares or other securities or property purchasable under the Rights Certificates made in accordance with the provisions of this Agreement. In addition, in connection with the issuance or sale of shares of Common Stock following the Distribution Date and prior to the redemption or expiration of the Rights, the Company (a) shall, with respect to shares of Common Stock so issued or sold pursuant to the exercise of stock options or under any employee plan or arrangement, granted or awarded as of the Distribution Date, or upon the exercise, conversion or exchange of securities hereinafter issued by the Company, and (b) may, in any other case, if deemed necessary or appropriate by the Board of Directors of the Company, issue Rights Certificates representing the appropriate number of Rights in connection with such issuance or sale; provided, however, that (i) no such Rights Certificate shall be issued if, and to the extent that, the Company shall be advised by counsel that such issuance would create a significant risk of material adverse tax consequences to the Company or the Person to whom such Rights Certificate would be issued, and (ii) no such Rights Certificate shall be issued if, and to the extent that, appropriate adjustment shall otherwise have been made in lieu of the issuance thereof.

Section 23. Redemption and Termination.

(a) The Board of Directors of the Company may, at its option, at any time prior to such time as any Person becomes an Acquiring Person, redeem all but not less than all of the then outstanding Rights at a redemption price of \$0.001 per Right, as such amount may be appropriately adjusted to reflect any stock split, stock dividend or similar

transaction occurring after the date hereof (such redemption price being hereinafter referred to as the “Redemption Price”). Notwithstanding anything contained in this Agreement to the contrary, the Rights shall not be exercisable after the first occurrence of a Section 11(a)(ii) Event until such time as the Company's right of redemption hereunder has expired. The Company may, at its option, pay the Redemption Price in cash, shares of Common Stock (based on the Current Market Price, as defined in Section 11(d)(i) hereof, of the Common Stock at the time of redemption) or any other form of consideration deemed appropriate by the Board of Directors.

(b) Immediately upon the action of the Board of Directors of the Company ordering the redemption of the Rights, evidence of which shall have been filed with the Rights Agent and without any further action and without any notice, the right to exercise the Rights will terminate and the only right thereafter of the holders of Rights shall be to receive the Redemption Price for each Right so held. Promptly after the action of the Board of Directors ordering the redemption of the Rights, the Company shall give notice of such redemption to the Rights Agent and the holders of the then outstanding Rights by mailing such notice to all such holders at each holder's last address as it appears upon the registry books of the Rights Agent or, prior to the Distribution Date, on the registry books of the transfer agent for the Common Stock. Any notice which is mailed in the manner herein provided shall be deemed given, whether or not the holder receives the notice. Each such notice of redemption will state the method by which the payment of the Redemption Price will be made.

Section 24. Exchange.

(a) The Board of Directors of the Company may, at its option, at any time after any Person becomes an Acquiring Person, exchange all or part of the then outstanding and exercisable Rights (which shall not include Rights that have become void pursuant to the provisions of Section 7(e) hereof) for Common Stock at an exchange ratio of one share of Common Stock per Right, appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the date hereof (such exchange ratio being hereinafter referred to as the "Exchange Ratio"). Notwithstanding the foregoing, the Board of Directors of the Company shall not be empowered to effect such exchange at any time after any Person (other than the Company, any Subsidiary of the Company, any employee benefit plan of the Company or any such Subsidiary, or any entity holding Common Stock for or pursuant to the terms of any such plan), together with all Affiliates and Associates of such Person, becomes the Beneficial Owner of 50% or more of the Common Stock then outstanding.

(b) Immediately upon the action of the Board of Directors of the Company ordering the exchange of any Rights pursuant to subsection (a) of this Section 24 and without any further action and without any notice, the right to exercise such Rights shall terminate and the only right thereafter of a holder of such Rights shall be to receive that number of shares of Common Stock equal to the number of such Rights held by such holder multiplied by the Exchange Ratio. The Company shall promptly give public notice of any such exchange; provided, however, that the failure to give, or any defect in, such notice shall not affect the validity of such exchange. The Company promptly shall mail a notice of any such exchange to all of the holders of such Rights at their last addresses as they appear upon the registry books of the Rights Agent. Any notice which is mailed in the manner herein provided shall be deemed given, whether or not the holder receives the notice. Each such notice of exchange will state the method by which the exchange of the Common Stock for Rights will be effected and, in the event of any partial exchange, the number of Rights which will be exchanged. Any partial exchange shall be effected pro rata based on the number of Rights (other than Rights which have become void pursuant to the provisions of Section 7(e) hereof) held by each holder of Rights.

(c) In any exchange pursuant to this Section 24, the Company, at its option, may substitute Preferred Stock (or Equivalent Preferred Stock, as such term is defined in paragraph (b) of Section 11 hereof) for Common Stock exchangeable for Rights, at the initial rate of one one-hundredth of a share of Preferred Stock (or Equivalent Preferred

Stock) for each share of Common Stock, as appropriately adjusted to reflect stock splits, stock dividends and other similar transactions after the date hereof.

(d) In the event that there shall not be sufficient shares of Common Stock issued but not outstanding or authorized but unissued to permit any exchange of Rights as contemplated in accordance with this Section 24, the Company shall take all such action as may be necessary to authorize additional shares of Common Stock for issuance upon exchange of the Rights.

(e) The Company shall not be required to issue fractions of shares of Common Stock or to distribute certificates which evidence fractional shares of Common Stock. In lieu of such fractional shares of Common Stock, there shall be paid to the registered holders of the Rights Certificates with regard to which such fractional shares of Common Stock would otherwise be issuable, an amount in cash equal to the same fraction of the current market value of a whole share of Common Stock. For the purposes of this subsection (e), the current market value of a whole share of Common Stock shall be the closing price of a share of Common Stock (as determined pursuant to the second sentence of Section 11(d)(i) hereof) for the Trading Day immediately prior to the date of exchange pursuant to this Section 24.

Section 25. Notice of Certain Events.

(a) In case the Company shall propose, at any time after the Distribution Date, (i) to pay any dividend payable in stock of any class to the holders of Preferred Stock or to make any other distribution to the holders of Preferred Stock (other than a regular quarterly cash dividend out of earnings or retained earnings of the Company), or (ii) to offer to the holders of Preferred Stock rights or warrants to subscribe for or to purchase any additional shares of Preferred Stock or shares of stock of any class or any other securities, rights or options, or (iii) to effect any reclassification of its Preferred Stock (other than a reclassification involving only the subdivision of outstanding shares of Preferred Stock), or (iv) to effect any consolidation or merger into or with any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), or to effect any sale or other transfer (or to permit one or more of its Subsidiaries to effect any sale or other transfer), in one transaction or a series of related transactions, of more than 50% of the assets, cash flow or earning power of the Company and its Subsidiaries (taken as a whole) to any other Person or Persons (other than the Company and/or any of its Subsidiaries in one or more transactions each of which complies with Section 11(o) hereof), or (v) to effect the liquidation, dissolution or winding up of the Company, then, in each such case, the Company shall give to each holder of a Rights Certificate, to the extent feasible and in accordance with Section 26 hereof, a notice of such proposed action, which shall specify the record date for the purposes of such stock dividend, distribution of rights or warrants, or the date on which such reclassification, consolidation, merger, sale, transfer, liquidation, dissolution, or winding up is to take place and the date of participation therein by the holders of the shares of Preferred Stock, if any such date is to be fixed, and such notice shall be so given in the case of any action covered by clause (i) or (ii) above at least twenty (20) days prior to the record date for determining holders of the shares of Preferred Stock for purposes of such action, and in the case of any such other action, at least twenty (20) days prior to the date of the taking of such proposed action or the date of participation therein by the holders of the shares of Preferred Stock, whichever shall be the earlier.

(b) In case any of the events set forth in Section 11(a)(ii) hereof shall occur, then, in any such case, (i) the Company shall as soon as practicable thereafter give to each holder of a Rights Certificate, to the extent feasible and in accordance with Section 26 hereof, a notice of the occurrence of such event, which shall specify the event and the consequences of the event to holders of Rights under Section 11(a)(ii) hereof, and (ii) all references in the preceding paragraph to Preferred Stock shall be deemed thereafter to refer to Common Stock and/or, if appropriate, other securities.

Section 26. Notices.

Notices or demands authorized by this Agreement to be given or made by the Rights Agent or by the holder of any Rights Certificate to or on the Company shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed (until another address is filed in writing by the Rights Agent with the Company) as follows:

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Hemispherx Biopharma, Inc.

1617 JFK Boulevard

One Penn Center, Suite 660

Philadelphia, Pennsylvania 19103

Attention: Corporate Secretary

Subject to the provisions of Section 21, any notice or demand authorized by this Agreement to be given or made by the Company or by the holder of any Rights Certificate to or on the Rights Agent shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed (until another address is filed in writing by the Rights Agent with the Company) as follows:

Continental Stock Transfer & Trust Company

17 Battery Place

8th Floor

New York, NY 10004

Attention: Compliance Department

Notices or demands authorized by this Agreement to be given or made by the Company or the Rights Agent to the holder of any Rights Certificate (or, if prior to the Distribution Date, to the holder of certificates representing shares of Common Stock) shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed to such holder at the address of such holder as shown on the registry books of the Company.

Section 27. Supplements and Amendments.

Prior to the time any Person becomes an Acquiring Person, the Company and the Rights Agent shall, if the Company so directs, supplement or amend any provision of this Agreement without the approval of any holders of certificates representing shares of Common Stock. From and after the time any Person becomes an Acquiring Person, the Company and the Rights Agent shall, if the Company so directs, supplement or amend this Agreement without the approval of any holders of Rights Certificates in order (i) to cure any ambiguity, (ii) to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, (iii) to shorten or

lengthen any time period hereunder or (iv) to change or supplement the provisions hereunder in any manner which the Company may deem necessary or desirable and which shall not adversely affect the interests of the holders of Rights Certificates (other than an Acquiring Person or an Affiliate or Associate of an Acquiring Person). Upon the delivery of a certificate from an appropriate officer of the Company which states that the proposed supplement or amendment is in compliance with the terms of this Section 27, the Rights Agent shall execute such supplement or amendment. Notwithstanding anything herein to the contrary, this Agreement may not be amended (other than pursuant to clauses (i) or (ii) of the preceding sentence) at a time when the Rights are not redeemable.

Section 28. Successors.

All the covenants and provisions of this Agreement by or for the benefit of the Company or the Rights Agent shall bind and inure to the benefit of their respective successors and assigns hereunder.

Section 29. Determinations and Actions by the Board of Directors, etc.

For all purposes of this Agreement, any calculation of the number of shares of Common Stock or any other class of capital stock outstanding at any particular time, including for purposes of determining the particular percentage of such outstanding shares of Common Stock of which any Person is the

Beneficial Owner, shall be made in accordance with the last sentence of Rule 13d-3(d)(1)(i) of the General Rules and Regulations under the Exchange Act. The Board of Directors of the Company shall have the exclusive power and authority to administer this Agreement and to exercise all rights and powers specifically granted to the Board or to the Company, or as may be necessary or advisable in the administration of this Agreement, including, without limitation, the right and power to (i) interpret the provisions of this Agreement, and (ii) make all determinations deemed necessary or advisable for the administration of this Agreement (including a determination to redeem or not redeem the Rights or to amend the Agreement). All such actions, calculations, interpretations and determinations (including, for purposes of clause (y) below, all omissions with respect to the foregoing) which are done or made by the Board in good faith, shall (x) be final, conclusive and binding on the Company, the Rights Agent, the holders of the Rights and all other parties, and (y) not subject the Board to any liability to the holders of the Rights.

Section 30. Benefits of this Agreement.

Nothing in this Agreement shall be construed to give to any Person other than the Company, the Rights Agent and the registered holders of the Rights Certificates (and, prior to the Distribution Date, registered holders of the Common Stock) any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Rights Agent and the registered holders of the Rights Certificates (and, prior to the Distribution Date, registered holders of the Common Stock). Section 31. Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated; provided, however, that notwithstanding anything in this Agreement to the contrary, if any such term, provision, covenant or restriction is held by such court or authority to be invalid, void or unenforceable and the Board of Directors of the Company determines in its good faith judgment that severing the invalid language from this Agreement would adversely affect the purpose or effect of this Agreement, the right of redemption set forth in Section 23 hereof shall be reinstated and shall not expire until the close of business on the tenth day following the date of such determination by the Board of Directors. Without limiting the foregoing, if any provision requiring a specific group of directors to act is held to by any court of competent jurisdiction or other authority to be invalid, void or unenforceable, such determination shall then be made by the Board of Directors of the Company in accordance with applicable law and the Company's Amended and Restated Certificate of Incorporation and By-laws.

Section 31. Governing Law.

This Agreement, each Right and each Rights Certificate issued hereunder shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be governed by and construed in accordance with the laws of such State applicable to contracts made and to be performed entirely within such State.

Section 32. Counterparts.

This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

Section 33. Descriptive Headings.

Descriptive headings of the several sections of this Agreement are inserted for convenience only and shall not control or affect the meaning or construction of any of the provisions hereof.

(Signature Page follows)

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed, and their respective corporate seals to be hereunto affixed and attested, all as of the day and year first above written.

Attest: HEMISPHERX BIOPHARMA,
INC.

By: /s/ Robert Dickey, IV By: /s/ Charles T. Bernhardt
Name: Robert Dickey, IV Name: Charles T. Bernhardt
Title: Senior Vice President Title: Chief Financial Officer

Attest: CONTINENTAL STOCK
TRANSFER & TRUST
COMPANY

By: /s/ John Comer, Jr. By: /s/ Leslie A. DeLuca
Name: John Comer, Jr. Name: Leslie A. DeLuca
Title: Vice President Title: Vice President

Exhibit A

FORM OF

AMENDED AND RESTATED CERTIFICATE OF DESIGNATION, PREFERENCES AND RIGHTS

OF SERIES A JUNIOR PARTICIPATING PREFERRED STOCK

of

HEMISPHERX BIOPHARMA, INC.

Pursuant to Section 151 of the General Corporation Law

of the State of Delaware

We, William A. Carter, M.D., Chairman of the Board, and Thomas K. Equels, Secretary, of Hemispherx Biopharma, Inc., a corporation organized and existing under the General Corporation Law of the State of Delaware, in accordance with the provisions of Section 103 thereof, DO HEREBY CERTIFY:

That pursuant to the authority conferred upon the Board of Directors by the Amended and Restated Certificate of Incorporation of the said Corporation, the said Board of Directors on November 19, 2002, adopted the following resolution creating a series of 500,000 shares of Preferred Stock designated as Series A Junior Participating Preferred Stock;

That, in accordance therewith, on November 19, 2002, said Corporation filed with the Delaware Secretary of State a Certificate Of Designation, Preferences And Rights Of Series A Junior Participating Preferred Stock (the "Original Certificate of Designations");

That pursuant to the authority conferred upon the Board of Directors by the Amended and Restated Certificate of Incorporation of the said Corporation, the said Board of Directors on October 31, 2012, adopted a resolution increasing the number of shares of Preferred Stock designated as Series A Junior Participating Preferred Stock from 500,000 to 1,500,000 and authorizing the filing of an amended Certificate of Designation;

That the Original Certificate of Designations as amended, reads as follows:

RESOLVED, that pursuant to the authority vested in the Board of Directors of this Corporation in accordance with the provisions of its Amended and Restated Certificate of Incorporation, a series of Preferred Stock of the Corporation be and it hereby is created, and that the designation and amount thereof and the voting powers, preferences and relative, participating, optional and other special rights of the shares of such series, and the qualifications, limitations or restrictions thereof are as follows:

Section 1. Designation and Amount.

The shares of such series shall be designated as "Series A Junior Participating Preferred Stock and the number of shares constituting such series shall be 1,500,000.

Section 2. Dividends and Distributions.

(A) Subject to the prior and superior rights of the holders of any shares of any series of Preferred Stock ranking prior and superior to the shares of Series A Junior Participating Preferred Stock with respect to dividends, the holders of outstanding shares of Series A Junior Participating Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors out of funds legally available for the purpose, quarterly dividends payable in cash on the fifteenth day of March, June, September and December in each year (each such date being referred to herein as a “Quarterly Dividend Payment Date”), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series A Junior Participating Preferred Stock, in an amount per share (rounded to the nearest cent) equal to the greater of (a) \$1.00 or (b) subject to the provision for adjustment hereinafter set forth, 100 times the aggregate per share amount of all cash dividends, and 100 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions other than a dividend payable in shares of Common Stock or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock, par value \$0.001 per share, of the Corporation (the “Common Stock”) since the immediately preceding Quarterly Dividend Payment Date, or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series A Junior Participating Preferred Stock. In the event the Corporation shall at any time after November 19, 2002 (the “Rights Declaration Date”) (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the amount to which holders of shares of Series A Junior Participating Preferred Stock were entitled immediately prior to such event under clause (b) of the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) The Corporation shall declare a dividend or distribution on the Series A Junior Participating Preferred Stock as provided in Paragraph (A) above immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock); provided that, in the event no dividend or distribution shall have been declared on the Common Stock during the period between any Quarterly Dividend Payment Date and the next subsequent Quarterly Dividend Payment Date, a dividend of \$1.00 per share on the Series A Junior Participating Preferred Stock shall nevertheless be payable on such subsequent Quarterly Dividend Payment Date.

(C) Dividends shall begin to accrue and be cumulative on outstanding shares of Series A Junior Participating Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares of Series A Junior Participating Preferred Stock, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series A Junior Participating Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series A Junior Participating Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board of Directors may fix a record date for the determination of holders of shares of Series A Junior Participating Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be no more than 30 days prior to the date fixed for the payment thereof.

Section 3. Voting Rights.

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The holders of shares of Series A Junior Participating Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Series A Junior Participating Preferred Stock shall entitle the holder thereof to 100 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time after the Rights Declaration Date (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the number of votes per share to which holders of shares of Series A Junior Participating Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) Except as otherwise provided herein or by law, the holders of shares of Series A Junior Participating Preferred Stock and the holders of shares of Common Stock shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(C) (i) If at any time dividends on any Series A Junior Participating Preferred Stock shall be in arrears in an amount equal to six (6) quarterly dividends thereon, the occurrence of such contingency shall mark the beginning of a period (herein called a "default period") which shall extend until such time when all accrued and unpaid dividends for all previous quarterly dividend periods and for the current quarterly dividend period on all shares of Series A Junior Participating Preferred Stock then outstanding shall have been declared and paid or set apart for payment. During each default period, all holders of Preferred Stock (including holders of the Series A Junior Participating Preferred Stock) with dividends in arrears in an amount equal to six (6) quarterly dividends thereon, voting as a class, irrespective of series, shall have the right to elect two (2) directors.

(ii) During any default period, such voting right of the holders of Series A Junior Participating Preferred Stock may be exercised initially at a special meeting called pursuant to subparagraph (iii) of this Section 3(C) or at any annual meeting of stockholders, and thereafter at annual meetings of stockholders, provided that such voting right shall not be exercised unless the holders of ten percent (10%) in number of shares of Preferred Stock outstanding shall be present in person or by proxy. The absence of a quorum of the holders of Common Stock shall not affect the exercise by the holders of Preferred Stock of such voting right. At any meeting at which the holders of Preferred Stock shall exercise such voting right initially during an existing default period, they shall have the right, voting as a class, to elect directors to fill such vacancies, if any, in the Board of Directors as may then exist up to two (2) directors or, if such right is exercised at an annual meeting, to elect two (2) directors. If the number which may be so elected at any special meeting does not amount to the required number, the holders of the Preferred Stock shall have the right to make such increase in the number of directors as shall be necessary to permit the election by them of the required number. After the holders of the Preferred Stock shall have exercised their right to elect directors in any default period and during the continuance of such period, the number of directors shall not be increased or decreased except by vote of the holders of Preferred Stock as herein provided or pursuant to the rights of any equity securities ranking senior to or pari passu with the Series A Junior Participating Preferred Stock.

(iii) Unless the holders of Preferred Stock shall, during an existing default period, have previously exercised their right to elect directors, the Board of Directors may order, or any stockholder or stockholders owning in the aggregate not less than ten percent (10%) of the total number of shares of Preferred Stock outstanding, irrespective of series, may request, the calling of a special meeting of the holders of Preferred Stock, which meeting shall thereupon be called by the President, a Vice-President or

the Secretary of the Corporation. Notice of such meeting and of any annual meeting at which holders of Preferred Stock are entitled to vote pursuant to this Paragraph (C)(iii) shall be given to each holder of record of Preferred Stock by mailing a copy of such notice to him at his last address as the same appears on the books of the Corporation. Such meeting shall be called for a time not earlier than 20 days and not later than 60 days after such order or request or in default of the calling of such meeting within 60 days after such order or request, such meeting may be called on similar notice by any stockholder or stockholders owning in the aggregate not less than ten percent (10%) of the total number of shares of Preferred Stock outstanding. Notwithstanding the provisions of this Paragraph (C)(iii), no such special meeting shall be called during the period within 60 days immediately preceding the date fixed for the next annual meeting of the stockholders.

(iv) In any default period, the holders of Common Stock, and other classes of stock of the Corporation if applicable, shall continue to be entitled to elect the whole number of directors until the holders of Preferred Stock shall have exercised their right to elect two (2) directors voting as a class, after the exercise of which right (x) the directors so elected by the holders of Preferred Stock shall continue in office until their successors shall have been elected by such holders or until the expiration of the default period, and (y) any vacancy in the Board of Directors may (except as provided in Paragraph (C)(ii) of this Section 3) be filled by vote of a majority of the remaining directors theretofore elected by the holders of the class of stock which elected the director whose office shall have become vacant. References in this Paragraph (C) to directors elected by the holders of a particular class of stock shall include directors elected by such directors to fill vacancies as provided in clause (y) of the foregoing sentence.

(v) Immediately upon the expiration of a default period, (x) the right of the holders of Preferred Stock as a class to elect directors shall cease, (y) the term of any directors elected by the holders of Preferred Stock as a class shall terminate, and (z) the number of directors shall be such number as may be provided for in the certificate of incorporation or by-laws irrespective of any increase made pursuant to the provisions of Paragraph (C)(ii) of this Section 3 (such number being subject, however, to change thereafter in any manner provided by law or in the certificate of incorporation or by-laws). Any vacancies in the Board of Directors effected by the provisions of clauses (y) and (z) in the preceding sentence may be filled by a majority of the remaining directors.

(D) Except as set forth herein, holders of Series A Junior Participating Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

Section 4. Certain Restrictions.

(A) Whenever quarterly dividends or other dividends or distributions payable on the Series A Junior Participating Preferred Stock as provided in Section 2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Series A Junior Participating Preferred Stock outstanding shall have been paid in full, the Corporation shall not

(i) declare or pay dividends on, make any other distributions on, or redeem or purchase or otherwise acquire for consideration any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Junior Participating Preferred Stock;

(ii) declare or pay dividends on or make any other distributions on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Junior Participating Preferred Stock, except dividends paid ratably on the Series A Junior Participating Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

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(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Junior Participating Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such parity stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series A Junior Participating Preferred Stock; or

(iv) purchase or otherwise acquire for consideration any shares of Series A Junior Participating Preferred Stock, or any shares of stock ranking on a parity with the Series A Junior Participating Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board of Directors) to all holders of such shares upon such terms as the Board of Directors, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(B) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under Paragraph (A) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Reacquired Shares.

Any shares of Series A Junior Participating Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and cancelled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock to be created by resolution or resolutions of the Board of Directors, subject to the conditions and restrictions on issuance set forth herein.

Section 6. Liquidation, Dissolution or Winding Up.

(A) Upon any liquidation (voluntary or otherwise), dissolution or winding up of the Corporation, no distribution shall be made to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Junior Participating Preferred Stock unless, prior thereto, the holders of shares of Series A Junior Participating Preferred Stock shall have received an amount equal to \$1.00 per share of Series A Participating Preferred Stock, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment (the "Series A Liquidation Preference"). Following the payment of the full amount of the Series A Liquidation Preference, no additional distributions shall be made to the holders of shares of Series A Junior Participating Preferred Stock unless, prior thereto, the holders of shares of Common Stock shall have received an amount per share (the "Common Adjustment") equal to the quotient obtained by dividing (i) the Series A Liquidation

Preference by (ii) 1 (as appropriately adjusted as set forth in subparagraph (C) below to reflect such events as stock splits, stock dividends and recapitalizations with respect to the Common Stock) (such number in clause (ii), the “Adjustment Number”). Following the payment of the full amount of the Series A Liquidation Preference and the Common Adjustment in respect of all outstanding shares of Series A Junior Participating Preferred Stock and Common Stock, respectively, holders of Series A Junior Participating Preferred Stock and holders of shares of Common Stock shall receive their ratable and proportionate share of the remaining assets to be distributed in the ratio of the Adjustment Number to 1 with respect to such Preferred Stock and Common Stock, on a per share basis, respectively.

(B) In the event, however, that there are not sufficient assets available to permit payment in full of the Series A Liquidation Preference and the liquidation preferences of all other series of preferred stock, if any, which rank on a parity with the Series A Junior Participating Preferred Stock, then such remaining assets shall be distributed ratably to the holders of such parity shares in proportion to their respective liquidation preferences. In the event, however, that there are not sufficient assets available to permit payment in full of the Common Adjustment, then such remaining assets shall be distributed ratably to the holders of Common Stock.

(C) In the event the Corporation shall at any time after the Rights Declaration Date (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the Adjustment Number in effect immediately prior to such event shall be adjusted by multiplying such Adjustment Number by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 7. Consolidation, Merger, etc.

In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case the shares of Series A Junior Participating Preferred Stock shall at the same time be similarly exchanged or changed in an amount per share (subject to the provision for adjustment hereinafter set forth) equal to 100 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time after the Rights Declaration Date (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series A Junior Participating Preferred Stock shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 8. No Redemption.

The shares of Series A Junior Participating Preferred Stock shall not be redeemable.

Section 9. Ranking.

The Series A Junior Participating Preferred Stock shall rank junior to all other series of the Corporation's Preferred Stock as to the payment of dividends and the distribution of assets, unless the terms of any such series shall provide otherwise.

Section 10. Amendment.

At any time when any shares of Series A Junior Participating Preferred Stock are outstanding, neither the Amended and Restated Certificate of Incorporation of the Corporation nor this Certificate of Designation shall be amended in any manner which would materially alter or change the powers, preferences or special rights of the Series A Junior Participating Preferred Stock so as to affect them

adversely without the affirmative vote of the holders of a majority or more of the outstanding shares of Series A Junior Participating Preferred Stock, voting separately as a class.

Section 11. Fractional Shares.

Series A Junior Participating Preferred Stock may be issued in fractions of a share which shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions and to have the benefit of all other rights of holders of Series A Junior Participating Preferred Stock.

IN WITNESS WHEREOF, we have executed and subscribed this Certificate and do affirm the foregoing as true under the penalties of perjury this 2nd day of November, 2012.

/s/ William A. Carter

Name: William A. Carter, M.D.

Title: Chairman of the Board

Attest:

/s/ Thomas K. Equels

Name: Thomas K. Equels

Title: Secretary

Exhibit B

Form of Rights Certificate

Certificate No. R-_____ Rights

NOT EXERCISABLE AFTER NOVEMBER 18, 2017 OR EARLIER IF REDEEMED BY THE COMPANY. THE RIGHTS ARE SUBJECT TO REDEMPTION, AT THE OPTION OF THE COMPANY, AT \$0.001 PER RIGHT ON THE TERMS SET FORTH IN THE RIGHTS AGREEMENT. THE RIGHTS REPRESENTED BY THIS RIGHTS CERTIFICATE ARE OR WERE BENEFICIALLY OWNED BY A PERSON WHO WAS OR BECAME AN ACQUIRING PERSON OR AN AFFILIATE OR ASSOCIATE OF AN ACQUIRING PERSON (AS SUCH TERMS ARE DEFINED IN THE RIGHTS AGREEMENT). ACCORDINGLY, THIS RIGHTS CERTIFICATE AND THE RIGHTS REPRESENTED HEREBY MAY BECOME NULL AND VOID IN THE CIRCUMSTANCES SPECIFIED IN SECTION 7(e) OF THE RIGHTS AGREEMENT.

Rights Certificate

HEMISPHERX BIOPHARMA, INC.

This certifies that _____, or registered assigns, is the registered owner of the number of Rights set forth above, each of which entitles the owner thereof, subject to the terms, provisions and conditions of the Rights Agreement, dated as of November 19, 2002, as amended and restated on November 2, 2012 (the "Rights Agreement"), between Hemispherx Biopharma, Inc., a Delaware corporation (the "Company"), and Continental Stock Transfer & Trust Company, a New York corporation (the "Rights Agent"), to purchase from the Company at any time prior to 5:00 P.M. (New York City time) on November 18, 2017 (unless such date is extended prior thereto by the Board of Directors) at the office or offices of the Rights Agent designated for such purpose, or its successors as Rights Agent, one one-hundredth of a fully paid, non-assessable share of Series A Junior Participating Preferred Stock (the "Preferred Stock") of the Company, at a purchase price of \$30.00 per one one-hundredth of a share (the "Purchase Price"), upon presentation and surrender of this Rights Certificate with the Form of Election to Purchase and related Certificate duly executed. The number of Rights evidenced by this Rights Certificate (and the number of shares which may be purchased upon exercise thereof) set forth above, and the Purchase Price per share set forth above, are the number and

Purchase Price as of November 19, 2002, based on the Preferred Stock as constituted at such date. The Company reserves the right to require prior to the occurrence of a Triggering Event (as such term is defined in the Rights Agreement) that a number of Rights be exercised so that only whole shares of Preferred Stock will be issued. Upon the occurrence of a Section 11(a)(ii) Event (as such term is defined in the Rights Agreement), if the Rights evidenced by this Rights Certificate are beneficially owned by (i) an Acquiring Person or an Affiliate or Associate of any such Acquiring Person (as such terms are defined in the Rights Agreement), (ii) a transferee of any such Acquiring Person, Associate or Affiliate, or (iii) under certain circumstances specified in the Rights Agreement, a transferee of a person who, after such transfer, became an Acquiring Person, or an Affiliate or Associate of an Acquiring Person, such Rights shall become null and void and no holder hereof shall have any right with respect to such Rights from and after the occurrence of such Section 11(a)(ii) Event.

As provided in the Rights Agreement, the Purchase Price and the number and kind of shares of Preferred Stock or other securities, which may be purchased upon the exercise of the Rights evidenced by this Rights Certificate are subject to modification and adjustment upon the happening of certain events, including Triggering Events.

This Rights Certificate is subject to all of the terms, provisions and conditions of the Rights Agreement, which terms, provisions and conditions are hereby incorporated herein by reference and made a part hereof and to which Rights Agreement reference is hereby made for a full description of the rights, limitations of rights, obligations, duties and immunities hereunder of the Rights Agent, the Company and the holders of the Rights Certificates, which limitations of rights include the temporary suspension of the exercisability of such Rights under the specific circumstances set forth in the Rights Agreement. Copies of the Rights Agreement are on file at the above-mentioned office of the Rights Agent and are also available upon written request to the Rights Agent.

This Rights Certificate, with or without other Rights Certificates, upon surrender at the principal office or offices of the Rights Agent designated for such purpose, may be exchanged for another Rights Certificate or Rights Certificates of like tenor and date evidencing Rights entitling the holder to purchase a like aggregate number of one one-hundredths of a share of Preferred Stock as the Rights evidenced by the Rights Certificate or Rights Certificates surrendered shall have entitled such holder to purchase. If this Rights Certificate shall be exercised in part, the holder shall be entitled to receive upon surrender hereof another Rights Certificate or Rights Certificates for the number of whole Rights not exercised.

Subject to the provisions of the Rights Agreement, the Rights evidenced by this Certificate may be redeemed by the Company at its option at a redemption price of \$0.001 per Right at any time prior to such time as any Person becomes an Acquiring Person. In addition, under certain circumstances following such time as any Person becomes an Acquiring Person, the Rights may be exchanged, in whole or in part, for shares of the Common Stock, or shares of preferred stock of the Company having essentially the same value or economic rights as such shares. Immediately upon the action of the Board of Directors of the Company authorizing any such exchange, and without any further action or any notice, the Rights (other than Rights which are not subject to such exchange) will terminate and the Rights will only enable holders to receive the shares issuable upon such exchange.

No fractional shares of Preferred Stock will be issued upon the exercise of any Right or Rights evidenced hereby (other than fractions which are integral multiples of one one-hundredth of a share of Preferred Stock, which may, at the election of the Company, be evidenced by depositary receipts), but in lieu thereof a cash payment will be made, as provided in the Rights Agreement. The Company, at its election, may require that a number of Rights be exercised so that only whole shares of Preferred Stock would be issued.

No holder of this Rights Certificate shall be entitled to vote or receive dividends or be deemed for any purpose the holder of shares of Preferred Stock or of any other securities of the Company which may at any time be issuable on the exercise hereof, nor shall anything contained in the Rights Agreement or herein be construed to confer upon the

holder hereof, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give consent to or withhold consent from any corporate action, or, to receive notice of meetings or other actions affecting stockholders (except as provided in the Rights Agreement), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by this Rights Certificate shall have been exercised as provided in the Rights Agreement.

This Rights Certificate shall not be valid or obligatory for any purpose until it shall have been countersigned by the Rights Agent.

WITNESS the facsimile signature of the proper officers of the Company and its corporate seal.

Dated as of _____

Attest: HEMISPHERX BIOPHARMA,
INC.

By: /s/ Robert Dickey, IV	By: /s/ Charles T. Bernhardt
Name: Robert Dickey, IV	Name: Charles T. Bernhardt
Title: Senior Vice President	Title: Chief Financial Officer

Countersigned:

CONTINENTAL STOCK
TRANSFER & TRUST
COMPANY:

By: /s/ Leslie A. DeLuca
Name: Leslie A. DeLuca
Title: Vice President

Form of Reverse Side of Rights Certificate

FORM OF ASSIGNMENT

(To be executed by the registered holder if such holder desires to transfer the Rights Certificate.)

FOR VALUE RECEIVED _____ hereby sells, assigns and transfers unto _____ (Please print name and address of transferee)

this Rights Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint _____ Attorney, to transfer the within Rights Certificate on the books of the within named Company, with full power of substitution.

Dated:

Signature

Signature Guaranteed:

Certificate

The undersigned hereby certifies by checking the appropriate boxes that:

(1) this Rights Certificate [] is [] is not being sold, assigned and transferred by or on behalf of a Person who is or was an Acquiring Person or an Affiliate or Associate of any such Acquiring Person (as such terms are defined pursuant to the Rights Agreement);

(2) after due inquiry and to the best knowledge of the undersigned, it [] did [] did not acquire the Rights evidenced by this Rights Certificate from any Person who is, was or subsequently became an Acquiring Person or an Affiliate or Associate of an Acquiring Person.

Dated:

Signature

Signature Guaranteed:

NOTICE

The signature to the foregoing Assignment and Certificate must correspond to the name as written upon the face of this Rights Certificate in every particular, without alteration or enlargement or any change whatsoever.

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FORM OF ELECTION TO PURCHASE

(To be executed if holder desires to exercise Rights represented by the Rights Certificate.)

To: HEMISPHERX BIOPHARMA, INC.:

The undersigned hereby irrevocably elects to exercise _____ Rights represented by this Rights Certificate to purchase the shares of Preferred Stock issuable upon the exercise of the Rights (or such other securities of the Company or of any other person which may be issuable upon the exercise of the Rights) and requests that certificates for such shares be issued in the name of and delivered to:

Please insert social security

or other identifying number _____

(Please print name and address)

If such number of Rights shall not be all the Rights evidenced by this Rights Certificate, a new Rights Certificate for the balance of such Rights shall be registered in the name of and delivered to:

Please insert social security

or other identifying number _____

(Please print name and address)

Dated:

Signature

Signature Guaranteed:

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Certificate

The undersigned hereby certifies by checking the appropriate boxes that:

(1) the Rights evidenced by this Rights Certificate are are not being exercised by or on behalf of a Person who is or was an Acquiring Person or an Affiliate or Associate of any such Acquiring Person (as such terms are defined pursuant to the Rights Agreement);

(2) after due inquiry and to the best knowledge of the undersigned, it did did not acquire the Rights evidenced by this Rights Certificate from any Person who is, was or became an Acquiring Person or an Affiliate or Associate of an Acquiring Person.

Dated:

Signature

Signature Guaranteed:

NOTICE

The signature to the foregoing Election to Purchase and Certificate must correspond to the name as written upon the face of this Rights Certificate in every particular, without alteration or enlargement or any change whatsoever.

Exhibit C

SUMMARY OF RIGHTS TO PURCHASE

PREFERRED STOCK

On November 19, 2002, the Board of Directors of Hemispherx Biopharma, Inc. (the “Company”) declared a dividend distribution of one Right for each outstanding share of Common Stock to stockholders of record at the close of business on November 29, 2002 (the “Record Date”). On November 2, 2012, at the direction of the Board, the Company amended and restated the Rights Agreement between the Company and Continental Stock Transfer & Trust Company, as Rights Agent (as amended, the “Rights Agreement”). Each Right entitles the registered holder to purchase from the Company a unit consisting of one one-hundredth of a share (a “Unit”) of Series A Junior Participating Preferred Stock, par value \$0.01 per share (the “Series A Preferred Stock”) at a Purchase Price of \$30.00 per Unit, subject to adjustment. The description and terms of the Rights are set forth in the Rights Agreement.

Initially, the Rights attached to all Common Stock certificates representing shares outstanding at the Record Date. The Rights attach to all certificates (or book entry notation) of shares of Common Stock issued after the Record Date. No separate Rights Certificates will be distributed. Subject to certain exceptions specified in the Rights Agreement, the Rights will separate from the Common Stock and a Distribution Date will occur upon the earlier of (i) 10 days following a public announcement that a person or group of affiliated or associated persons (an “Acquiring Person”) has acquired beneficial ownership of 15% or more (or 20% or more for William A. Carter, M.D. and his Affiliates and Associates) of the outstanding shares of Common Stock (the “Stock Acquisition Date”), other than as a result of repurchases of stock by the Company or certain inadvertent actions by institutional or certain other stockholders or (ii) 10 business days (or such later date as the Board shall determine) following the commencement of a tender offer or exchange offer that would result in a person or group becoming an Acquiring Person. Until the Distribution Date, (i) the Rights will be evidenced by certificates and Book Entry Notations for the Common Stock (collectively, “Common Stock Certificates”) and will be transferred with and only with such Common Stock Certificates, (ii) new Common Stock Certificates issued after the Record Date will contain a notation incorporating the Rights Agreement by reference and (iii) the surrender for transfer of any Common Stock Certificates outstanding will also constitute the transfer of the Rights associated with the Common Stock represented by such Common Stock Certificate. Pursuant to the Rights Agreement, the Company reserves the right to require prior to the occurrence of a Triggering Event (as defined below) that, upon any exercise of Rights, a number of Rights be exercised so that only whole shares of Preferred Stock will be issued.

The Rights are not exercisable until the Distribution Date and will expire at 5:00 P.M. (New York City time) on November 18, 2017, unless such date is extended or the Rights are earlier redeemed or exchanged by the Company as described below.

As soon as practicable after the Distribution Date, Rights Certificates will be mailed to holders of record of the Common Stock as of the close of business on the Distribution Date and, thereafter, the separate Rights Certificates alone will represent the Rights. Except as otherwise determined by the Board of Directors, only shares of Common Stock issued prior to the Distribution Date will be issued with Rights.

In the event that a Person becomes an Acquiring Person, except pursuant to an offer for all outstanding shares of Common Stock which the independent directors determine to be fair and not inadequate and to otherwise be in the best interests of the Company and its stockholders, after receiving advice from one or more investment banking firms (a “Qualified Offer”), each holder of a Right will

thereafter have the right to receive, upon exercise, Common Stock (or, in certain circumstances, cash, property or other securities of the Company) having a value equal to two times the exercise price of the Right. Notwithstanding any of the foregoing, following the occurrence of the event set forth in this paragraph, all Rights that are, or (under certain circumstances specified in the Rights Agreement) were, beneficially owned by any Acquiring Person will be null and void. However, Rights are not exercisable following the occurrence of the event set forth above until such time as the Rights are no longer redeemable by the Company as set forth below.

In the event that, at any time following the Stock Acquisition Date, (i) the Company engages in a merger or other business combination transaction in which the Company is not the surviving corporation (other than a merger or business combination with an entity which acquired the shares pursuant to a Qualified Offer in which holders of the Company common stock receive the same consideration per share as in the Qualified Offer), (ii) the Company engages in a merger or other business combination transaction in which the Company is the surviving corporation and the Common Stock of the Company is changed or exchanged, or (iii) 50% or more of the Company's assets, cash flow or earning power is sold or transferred, each holder of a Right (except Rights which have previously been voided as set forth above) shall thereafter have the right to receive, upon exercise, common stock of the acquiring company having a value equal to two times the exercise price of the Right. The events set forth in this paragraph and in the second preceding paragraph are referred to as the "Triggering Events".

At any time after a person becomes an Acquiring Person and prior to the acquisition by such person or group of fifty percent (50%) or more of the outstanding Common Stock, the Board may exchange the Rights (other than Rights owned by such person or group which have become void), in whole or in part, at an exchange ratio of one share of Common Stock, or one one-hundredth of a share of Preferred Stock (or of a share of a class or series of the Company's preferred stock having equivalent rights, preferences and privileges), per Right (subject to adjustment).

The Purchase Price payable, and the number of Units of Preferred Stock or other securities or property 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) if holders of the Preferred Stock are granted certain rights or warrants to subscribe for Preferred Stock or convertible securities at less than the current market price of the Preferred Stock, or (iii) upon the distribution to holders 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).

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments amount to at least 1% of the Purchase Price. No fractional Units will be issued and, in lieu thereof, an adjustment in cash will be made based on the market price of the Preferred Stock on the last trading date prior to the date of exercise.

At any time prior to such time as any Person becomes an Acquiring Person, the Company may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (payable in cash, Common Stock or other consideration deemed

appropriate by the Board of Directors). Immediately upon the action of the Board of Directors ordering redemption of the Rights, the Rights will terminate and the only right of the holders of Rights will be to receive the \$0.001 redemption price.

Until a Right is exercised, the holder thereof, as such, will have no rights as a stockholder of the Company, including, without limitation, the right to vote or to receive dividends. While the distribution of the Rights will not be taxable to stockholders or to the Company, stockholders may, depending upon the circumstances, recognize taxable income in the event that the Rights become exercisable for Common

Stock (or other consideration) of the Company or for common stock of the acquiring company or in the event of the redemption of the Rights as set forth above.

Any of the provisions of the Rights Agreement may be amended by the Board of Directors of the Company 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, to make changes which do not adversely affect the interests of holders of Rights, or to shorten or lengthen any time period under the Rights Agreement. The foregoing notwithstanding, no amendment may be made at such time as the Rights are not redeemable.

A copy of the Rights Agreement is being filed with the Securities and Exchange Commission as an Exhibit to an Amended Registration Statement on Form 8-A/A, dated November 2 , 2012. A copy of the Rights Agreement is available free of charge from the Company. 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 incorporated herein by reference.