GENETRONICS BIOMEDICAL CORP Form 424B3 March 03, 2005

QuickLinks -- Click here to rapidly navigate through this document

Filed pursuant to Rule 424(b)(3) under the Securities Act of 1933 Registration No. 333-116696

Prospectus Supplement No. 1 dated March 3, 2005 (To Prospectus dated June 28, 2004)

2,316,753 Shares

Common Stock

This prospectus supplement No. 1 supplements the information contained in the prospectus dated June 28, 2004, covering the resale by selling stockholders (or by transferees, pledges, donees, or other successors in interest to the selling stockholders) of up to 9,267,013 shares of common stock of Genetronics Biomedical Corporation. The number of shares has been adjusted to 2,316,753 to give effect to a 1-for-4 reverse stock split of our common stock on September 13, 2004. This prospectus supplement should be read in conjunction with the prospectus, and is qualified by reference to the prospectus, except to the extent that the information presented herein supercedes the information contained in the prospectus. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any amendments or supplements thereto. Our common stock is traded on the American Stock Exchange under the symbol "GEB."

SEE "RISK FACTORS' BEGINNING ON PAGE 6 OF THE PROSPECTUS TO READ ABOUT FACTORS YOU SHOULD CONSIDER BEFORE BUYING OUR COMMON STOCK.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is March 3, 2005.

The table and related footnotes on pages 17-19 of the prospectus setting forth information concerning the selling stockholders are amended to replace the information for Xmark Fund, LP and Xmark Fund, Ltd. with the information set forth below. All share amounts set forth below account for a 1-for-4 reverse stock split of our common stock on September 13, 2004.

With the exception of Avtar Dhillon, a director and our Chief Executive Officer and President, Peter Kies, our Chief Financial Officer, Bernard Hertel, our Manager of Investor Relations, Brook Riggins, our former Vice President of Finance and Corporate Communications, Dietmar P. Rabussay, our Vice President of Research & Development, Eugene Larson, a director, George McHugh, our Vice President of Operations, Paul Goldfarb, our Consulting Medical Director, Punit Dhillon, our Director of Finance and Corporate Communications, James Heppell, our Chairman of the Board of Directors, Riaz Bandali, a director, Robert Goodenow, our Vice President of Corporate Development, Simon Benito, a director, Tazdin Esmail, a director, Felix Theeuwes, a director, the selling stockholders listed below do not have, and have not had for the past three years, any position or office with, been employed by, or otherwise had a material relationship with us.

The following tables sets forth certain information regarding the selling stockholders and the shares offered by them in this prospectus. Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission. In computing the number of shares beneficially owned by a person and the percentage of ownership of that person, shares of common stock underlying shares of convertible preferred stock, options or warrants held by that person that are convertible or exercisable, as the case may be, within 60 days of February 18, 2005 are included. Those shares, however, are not deemed outstanding for the purpose of computing the percentage ownership of any other person. Each stockholder's percentage of ownership in the following table is based upon 19,999,625 shares of common stock outstanding as of February 18, 2005.

Selling Stockholder	Number of Shares of Common Stock Beneficially Owned Prior to Offering	Percentage of Shares of Common Stock Beneficially Owned Prior to the Offering	Number of Shares of Common Stock Registered for Sale Hereby	Number of Shares of Common Stock Beneficially Owned After Completion of the Offering(1)	Percentage of Shares of Common Stock Beneficially Owned After Completion of the Offering (1)
Avtar S. Dhillon	476,671(2)	2.33%	3,970	472,701	2.32%
Bernard Hertel	50,865(3)	*	1,984	48,881	*
Bristol Investment Fund, Ltd.	168,750(4)	*	168,750		*
Brook Riggins	44,544(5)	*	13,896	30,648	*
Callender Finance Ltd.	15,881(6)	*	15,881		*
Dietmar P. Rabussay	101,415(7)	*	1,984	99,431	*
Enable Capital Partners	85,367(8)	*	85,367		*
Eugene A. Larson	32,205(9)	*	5,955	26,250	*
George F. McHugh III	20,959(10)	*	1,984	18,975	*
Haywood Securities ITF					
Dorothy Atkinson	5,955(11)	*	5,955		*
Paul M. Goldfarb	31,046(12)	*	1,984	29,062	*
Peter Kies	52,296(13)	*	1,984	50,312	*
Punit S. Dhillon	48,280(14)	*	3,970	44,310	*
Raymond James ITF James L.					
Heppell	120,087(15)	*	3,970	116,117	*
Riaz Bandali	21,470(16)	*	3,970	17,500	*
Robert S. Goodenow	24,484(17)	*	1,984	22,500	*
Simon X. Benito	34,705(18)	*	5,955	28,750	*
Tazdin Esmail	85,538(19)	*	3,970	81,568	*
The Theeuwes Family Trust	131,032(20)	*	3,970	127,062	*

*

Less than 1 percent.

- (1)

 Represents the amount of shares that will be held by the selling stockholders after completion of this offering based on the assumption that all shares registered for sale hereby will be sold. However, the selling stockholders may offer all, some or none of the shares pursuant to this prospectus, and to our knowledge there are currently no agreements, arrangements or understanding with respect to the sale of any of the shares that may be held by the selling stockholders after completion of this offering.
- Includes 2,941 shares underlying Series C Preferred Stock, 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 412,495 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- (3) Includes 1,470 shares underlying Series C Preferred Stock, 514 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 38,281 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- (4) Includes 125,000 shares underlying Series C Preferred Stock and 43,750 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005.
- (5) Includes 10,294 shares underlying Series C Preferred Stock and 3,602 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005.
- (6) Includes 11,764 shares underlying Series C Preferred Stock and 4,117 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005.
- Includes 1,470 shares underlying Series C Preferred Stock, 514 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 81,841 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- (8) Includes 63,235 shares underlying Series C Preferred Stock and 22,132 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005.
- (9) Includes 4,411 shares underlying Series C Preferred Stock, 1,544 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 26,250 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- (10)
 Includes 1,470 shares underlying Series C Preferred Stock, 514 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 18,750 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- (11) Includes 4,411 shares underlying Series C Preferred Stock and 1,544 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005.
- Includes 1,470 shares underlying Series C Preferred Stock, 514 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 29,062 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- Includes 1,470 shares underlying Series C Preferred Stock, 514 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 50,312 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.

(14)

Includes 2,941 shares underlying Series C Preferred Stock, 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 27,343 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.

- Includes 2,941 shares underlying Series C Preferred Stock, 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 106,562 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- Includes 2,941 shares underlying Series C Preferred Stock, 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 17,500 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- (17)
 Includes 1,470 shares underlying Series C Preferred Stock, 514 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 22,500 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- Includes 4,411 shares underlying Series C Preferred Stock, 1,544 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 26,250 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.

- Includes 2,941 shares underlying Series C Preferred Stock, 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 76,250 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.
- Includes 2,941 shares underlying Series C Preferred Stock, 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of February 18, 2005, and 84,062 shares of common stock issuable pursuant to options exercisable within 60 days of February 18, 2005.

Additionally, the table and related footnotes on pages 17-19 of the prospectus setting forth information concerning the selling stockholders are further amended (a) to replace information for BayStar Capital II, LP. and (b) add the information set forth below.

Selling Stockholder	Number of Shares of Common Stock Beneficially Owned Prior to Offering	Percentage of Shares of Common Stock Beneficially Owned Prior to the Offering	Number of Shares of Common Stock Registered for Sale Hereby	Number of Shares of Common Stock Beneficially Owned After Completion of the Offering(1)	Percentage of Shares of Common Stock Beneficially Owned After Completion of the Offering (1)
BayStar Capital II, LP.	352,941(2)	1.76%		352,941	1.76%
North Sound Legacy Fund LLC	20,731(3)	*	3,088	17,643	*
North Sound Legacy Institutional Fund LLC	234,657(4)	1.17%	47,867	186,790	*
North Sound Legacy International Ltd.	372,633(5)	1.85%	103,456	269,177	1.35%

- (1)

 Represents the amount of shares that will be held by the selling stockholders after completion of this offering based on the assumption that all shares registered for sale hereby will be sold. However, the selling stockholders may offer all, some or none of the shares pursuant to this prospectus, and to our knowledge there are currently no agreements, arrangements or understanding with respect to the sale of any of the shares that may be held by the selling stockholders after completion of this offering.
- (2) Shares underlying Series C Preferred Stock.
- (3) Includes 8,516 shares underlying warrants that are exercisable within 60 days of February 18, 2005.
- (4) Includes 132,009 shares underlying warrants that are exercisable within 60 days of February 18, 2005.
- (5) Includes 285,314 shares underlying warrants that are exercisable within 60 days of February 18, 2005.

Information concerning the selling stockholders may change from time to time. Any such changed information or information about other selling stockholders will be set forth in one or more prospectus supplements, if required.

QuickLinks

Prospectus Supplement No. 1 dated March 3, 2005 (To Prospectus dated June 28, 2004)