

GENETRONICS BIOMEDICAL CORP
 Form 424B3
 May 27, 2004

[QuickLinks](#) -- Click here to rapidly navigate through this document

Filing Pursuant to Rule 424(b)(3) and (c)
 Registration Statement No. 333-108752

**PROSPECTUS SUPPLEMENT DATED MAY 27, 2004
 (To Prospectus Dated September 12, 2003)**

GENETRONICS BIOMEDICAL CORPORATION

36,067,759 Shares

Common Stock

This prospectus supplement is a supplement to the prospectus, dated September 12, 2003, of Genetronics Biomedical Corporation relating to the resale by selling stockholders of Genetronics Biomedical Corporation (or by transferees, pledges, donees, or other successors in interest to the selling stockholders) of an aggregate of 36,067,759 shares of our common stock. 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.

The securities offered by this prospectus involve a high degree of risk. See "Risk Factors" beginning on page 6 of the prospectus.

This supplement is filed in connection with the transfer of ownership and investment power of shares previously held by a stockholder listed in the prospectus dated September 12, 2003. We were informed that SDS Merchant Fund, L.P., a selling stockholder listed in the prospectus, participated in a reorganization pursuant to which ownership and investment power over the shares registered in the prospectus were transferred from SDS Merchant Fund, L.P. to SDS Capital Group SPC, Ltd. Accordingly, the table captioned "Selling Stockholders" beginning on page 17 of the prospectus is hereby amended to reflect the change, as set forth in the table below, whereby the entry for SDS Merchant Fund, L.P. listed in the prospectus is superceded by the entry below.

| | Number of Shares of Common Stock Beneficially Owned Prior to the 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 Held After Completion of the Offering (1) |
|------------------------------------|--|--|--|---|
| SDS Capital Group SPC, Ltd. | 2,533,334 | 2.89% | 2,533,334 | |

(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

Edgar Filing: GENETRONICS BIOMEDICAL CORP - Form 424B3

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.

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

QuickLinks

PROSPECTUS SUPPLEMENT DATED MAY 27, 2004 (To Prospectus Dated September 12, 2003)