Prospectus Supplement No. 3 (To Prospectus dated September 6, 2007)

NOVELOS THERAPEUTICS, INC.

12,000,000 shares of common stock

This prospectus supplement supplements the Prospectus dated September 6, 2007, relating to the resale of 12,000,000 shares of our common stock. This prospectus supplement should be read in conjunction with the Prospectus.

Appointment of Officers

On December 17, 2007 the board of directors of Novelos Therapeutics, Inc. (the "Company" or "Novelos") appointed Joanne M. Protano to the position of Vice President, Chief Financial Officer and Treasurer and appointed Kristin C. Schuhwerk to the position of Vice President of Clinical Development, Operations.

In connection with their appointments, Ms. Protano received an option to purchase 100,000 shares of the Company's common stock and Ms. Schuhwerk received an option to purchase 125,000 shares of the Company's common stock. Both options vest in equal annual installments over three years and have an exercise price of \$0.451 per share which represents the closing price of the Company's common stock on December 17, 2007 as reported on the Over the Counter Bulletin Board.

Ms. Protano succeeds George Vaughn, principal of Vaughn & Associates, P.C., as Chief Financial Officer. Mr. Vaughn, who will continue to provide consulting services to the Company, has served as the Company's Chief Financial Officer on a consulting basis from 2005 until the appointment of Ms. Protano.

Ms. Protano, 39, has held the position of Senior Director of Finance and Controller of the Company since June 2006. From 1996 to 2006, she held various management and senior management positions with Ascential Software, Inc. and predecessor companies including Assistant Controller, Reporting for Ascential Software, Vice President and Chief Financial Officer for the Ascential Software Division of Informix Software, Inc. and Corporate Controller of Ardent Software, Inc. Prior to her tenure in the technology industry, she was an audit manager with Deloitte and Touche LLP, where she practiced as a certified public accountant from 1990 to 1996.

Ms. Schuhwerk, 37, has been employed by the Company since July 2005 as Director/Senior Director of Operations. Prior to her employment at Novelos, she worked in the biopharmaceutical industry managing and overseeing business operations for multiple global Phase 2 and 3 clinical studies. From 2002 to 2005 she held the positions of Senior Project Manager and Director of Planning and Business Operations in Clinical Development at Antigenics, Inc., a cancer biotechnology company. From 1993 to 2002, she held research, project management and management positions at Boston University Medical Center, Parexel International, AstraZeneca and Brigham & Women's Hospital.

Investing in our common stock involves a high degree of risk. See Risk Factors beginning on page 6 of the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed on the adequacy or accuracy of this prospectus supplement. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is December 21, 2007