

**Prospectus Supplement No. 6
(To Prospectus dated July 26, 2012)**

**NOVELOS THERAPEUTICS, INC.
4,000,000 shares of common stock**

This prospectus supplement supplements the Prospectus dated July 26, 2012, relating to the resale, from time to time, of up to 4,000,000 shares of our common stock by the stockholders referred to throughout the Prospectus as “selling stockholders.” This prospectus supplement should be read in conjunction with the Prospectus.

Compensatory Arrangements of Certain Officers

On December 14, 2012, the board of directors of Novelos Therapeutics, Inc. (the “Company”) granted options to purchase a total of 1,932,650 shares of the Company’s common stock under the 2006 Stock Incentive Plan to directors, officers, employees and consultants of the Company, including the following grants to the Company’s Named Executive Officers:

- An option granted to Harry S. Palmin to purchase 502,650 shares of common stock at an exercise price of \$0.75 per share, which option will vest with respect to: 335,100 of such shares in equal quarterly installments over a four-year period; 83,775 of such shares upon the closing of one or more financings with total gross proceeds of at least \$7 million on or before January 31, 2013; and an additional 83,775 of such shares upon the closing of one or more financings with total gross proceeds of at least \$10 million on or before January 31, 2013;
- An option granted to Christopher J. Pazoles to purchase 125,000 shares of common stock at an exercise price of \$0.75 per share, which option will vest in equal quarterly installments over a three-year period; and
- An option granted to Joanne M. Protano to purchase 100,000 shares of common stock at an exercise price of \$0.75 per share, which option will vest in equal quarterly installments over a three-year period.

On December 14, 2012, the Company’s board of directors also approved an increase to Mr. Palmin’s annual base salary from \$275,400 to \$300,000, an increase to Dr. Pazoles’ annual base salary from \$255,000 to \$265,200 and an increase in Ms. Protano’s annual base salary from \$198,900 to \$224,757. The salary increases will become effective January 1, 2013.

**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 19, 2012
