

**Prospectus Supplement No. 2
(To Prospectus dated December 1, 2011)**

NOVELOS THERAPEUTICS, INC.

**10,081,667 units, each consisting of one share of common stock and a warrant to purchase one share of
common stock**

This prospectus supplement supplements the Prospectus dated December 1, 2011, relating to the sale of 10,081,667 units, each unit consisting of one share of common stock and a warrant to purchase one share of common stock. This prospectus supplement should be read in conjunction with the Prospectus.

Compensatory Arrangements of Certain Officers

On December 16, 2011, the Company's board of directors granted options to purchase a total of 1,460,100 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 335,100 shares of common stock at an exercise price of \$0.45 per share, which option will vest in equal quarterly installments over a four-year period; and
- An option granted to Christopher J. Pazoles to purchase 100,000 shares of common stock at an exercise price of \$0.45 per share, which option will vest in equal quarterly installments over a three-year period.

On December 16, 2011, the Company's board of directors also approved an increase to Mr. Palmin's base salary from \$270,000 to \$275,400 and an increase to Dr. Pazoles' base salary from \$250,000 to \$255,000. The salary increases will become effective January 1, 2012.

**Investing in our common stock involves a high degree of risk.
See Risk Factors beginning on page 7 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 20, 2011
