

**Prospectus Supplement No. 4
(To Prospectus dated April 27, 2009)**

NOVELOS THERAPEUTICS, INC.

12,000,000 shares of common stock

This prospectus supplement supplements the Prospectus dated April 27, 2009, relating to the resale of 12,000,000 shares of our common stock. This prospectus supplement should be read in conjunction with the Prospectus.

RESULTS OF SPECIAL MEETING OF SHAREHOLDERS

On November 3, 2009, we held a special meeting in lieu of annual meeting of stockholders. At the meeting, our stockholders approved an amendment to our certificate of incorporation to increase the total number of authorized shares of our common stock by 75 million shares, from 150 million to 225 million. Following the adjournment of the meeting, we filed the amendment with the Secretary of State of Delaware, and it went into effect on November 3, 2009.

In addition to the approval of the amendment of our certificate of incorporation as described above, our stockholders re-elected each incumbent member of our board of directors and approved an amendment to our 2006 Stock Incentive Plan to increase the shares of common stock authorized under the plan by 5 million shares, from 5 million to 10 million. The amendment to the 2006 Stock Incentive Plan became effective immediately upon its approval by our stockholders.

**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 November 4, 2009
