

**Prospectus Supplement No. 3
(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.

WARRANT EXCHANGE

On August 21, 2009, Novelos Therapeutics, Inc. (“Novelos or we”) entered into exchange agreements with certain accredited investors who held warrants to purchase 6,947,728 shares of our common stock. Pursuant to the exchange agreements, we issued an aggregate of 2,084,308 shares of our common stock in exchange for these warrants. The holders agreed not to transfer or dispose of the shares of common stock until February 18, 2010.

These warrants had been issued in March 2006 in connection with a private placement of our common stock, had an expiration date of March 7, 2011 and were exercisable at a price of \$1.82 per share. Following the exchange, warrants expiring on March 7, 2011 to purchase a total of 5,432,120 shares of our common stock at \$1.82 per share remained outstanding.

SALE OF COMMON STOCK AND WARRANT

Securities Purchase Agreement

On August 25, 2009, we entered into a Securities Purchase Agreement (the “Purchase Agreement”) with Purdue Pharma, L.P. (“Purdue”) to sell 13,636,364 shares of our common stock, \$0.00001 par and warrants to purchase 4,772,728 shares of our common stock at an exercise price of \$0.66, expiring December 31, 2015, for an aggregate purchase price of \$9,000,000 (the “Financing”). Pursuant to the Purchase Agreement, we initially sold Purdue 5,303,030 shares of common stock and a warrant to purchase 1,856,062 shares of common stock at \$0.66 per share for approximately \$3,500,000 (the “Initial Closing”). The sale of the remaining common stock and warrants will be completed in one or more subsequent closings subject to the availability of additional authorized shares of our common stock and the satisfaction of certain customary closing conditions.

Pursuant to the Purchase Agreement, Purdue shall have the exclusive right to negotiate with Novelos for the license or other acquisition of NOV-002 Rights (as defined) in the United States (the “US License”) from the date of the Initial Closing until Purdue receives the Data and Analysis (as defined) related to our Phase 3 clinical trial in non-small cell lung cancer (the “Exclusive Negotiation Period”). If, during the Exclusive Negotiation Period, Purdue and Novelos agree on terms for the US License, as set forth in a definitive agreement, Novelos shall grant Purdue an option to enter into such definitive agreement within 30 days after the expiration of the Exclusive Negotiation Period. If Novelos and Purdue do not agree to terms on a US License during the Exclusive Negotiation Period, Purdue shall be entitled to the right of first refusal (the “Right of First Refusal”) on bona fide offers for a US License received from third parties. Under the Right of First Refusal, Novelos will be required to communicate to Purdue the terms of any such offers received and Purdue will have 30 days to enter into a definitive agreement with Novelos on the same economic terms to Novelos as provided in the third-party offer. The Right of First Refusal terminates upon specified business combinations, occurring after the Exclusive Negotiation Period. The Right of First Refusal will terminate if Purdue fails to purchase shares of our common stock at a subsequent closing or the parties do not complete subsequent closings by the end of the Exclusive Negotiation Period. Novelos has separately entered into letter agreements with Mundipharma International Corporation Limited and its independent associated company providing for a conditional exclusive right to negotiate for and a conditional right of first refusal with respect to, NOV-002 Rights for Latin America, Mexico and Canada.

Purdue will have the right to either designate one member to Novelos' board of directors (the "Board") or designate an observer to attend all meetings of the Board, committees thereof and access to all information made available to members of the Board. This right shall last until such time as Purdue or its independent associated companies no longer hold at least one-half of the common stock purchased pursuant to the Purchase Agreement and no longer hold at least one-half of the Series E Preferred Stock issued to them on February 11, 2009. Purdue also has the right to participate in future equity financings in proportion to their pro rata ownership of common and preferred stock.

Common Stock Purchase Warrant

The common stock purchase warrant has an exercise price of \$0.66 and expires on December 31, 2015. The warrant exercise price and/or the number of shares of common stock issuable pursuant to such warrant will be subject to adjustment for stock dividends, stock splits or similar capital reorganizations so that the rights of the warrant holders after such event will be equivalent to the rights of warrant holders prior to such event.

Registration Rights Agreement

As part of this transaction, we entered into a registration rights agreement with Purdue. The registration rights agreement requires us to file with the Securities and Exchange Commission no later than 5 business days following the earlier of the six-month anniversary of (i) the Final Subsequent Closing or (ii) the end of the Exclusive Negotiation Period (the "Filing Deadline"), a registration statement covering the resale of all the shares of common stock issued pursuant to the Purchase Agreement and all shares of common stock issuable upon exercise of the warrants issued to pursuant to the Purchase Agreement. We are required to use our best efforts to have the registration statement declared effective and keep the registration statement continuously effective under the Securities Act until the earlier of the date when all the registrable securities covered by the registration statement have been sold or the second anniversary of the closing. In the event we fail to file the registration statement timely, we will be required to pay Purdue liquidated damages equal to 1.5% per month (pro-rated on a daily basis for any period of less than a full month) of the aggregate purchase price of the common stock and until we file the delinquent registration statement. We will be allowed to suspend the use of the registration statement for not more than 15 consecutive days or for a total of not more than 30 days in any 12 month period. In the event that the any sale or issuances of common stock and warrants pursuant to the Purchase Agreement occur after the Filing Deadline, we will be required to file a registration statement covering the registrable securities issued within 5 business days following the three-month anniversary of the issuance.

AMENDMENTS TO ARTICLES OF INCORPORATION OR BYLAWS

Effective August 20, 2009, our by-laws were amended in order to implement required notice periods and a protocol for calling shareholder meetings and addressing shareholder proposals.

**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 August 26, 2009