

**Prospectus Supplement No. 7
(To Prospectus dated May 9, 2013)**

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

This prospectus supplement supplements the Prospectus dated May 9, 2013, 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 stockholder.” This prospectus supplement should be read in conjunction with the Prospectus.

Entry into Securities Purchase Agreement and Sale of Convertible Debentures and Warrants

Securities Purchase Agreement

On February 5, 2014, the Company entered into a securities purchase agreement with certain accredited investors to sell \$4,000,000 in principal amount of convertible debentures and warrants to purchase 8,000,000 shares of its common stock for an aggregate purchase price of \$4,000,000. On February 6, 2014, the Company completed the sale of the debentures and warrants. The terms of the debentures and the warrants are more completely summarized below.

The offer and sale of the debentures and warrants were exempt from registration under Section 4(2) of the Securities Act as a transaction not involving any public offering.

Convertible Debentures

The debentures mature on February 6, 2016 and are convertible at any time at a conversion price of \$0.50 per share into an aggregate of 8,000,000 shares of common stock. The debentures accrue interest at an annual rate of 8%, payable upon redemption or conversion, in cash or shares of the Company’s common stock. The debenture conversion price and /or the common stock issuable pursuant to the debentures are 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.

The Company may elect to redeem the debentures prior to the maturity date upon 30-day notice to the holder. In the event of any sale of securities by the Company resulting in aggregate gross proceeds of at least \$2,000,000 (a “Subsequent Financing”), the holder shall have the right to require the Company to redeem some or all of the then outstanding principal amount of the debenture, plus all accrued but unpaid interest and other amounts due in respect of the debenture, in an amount equal to the amount of the holder’s investment in the Subsequent Financing by delivering notice to the Company on or before the consummation date of the Subsequent Financing. If, within 21 months after the issuance of the debentures, the Company raises gross proceeds of at least \$8 million, in the aggregate, in one or more subsequent financings (the “Minimum Proceeds”), the Company may, by notice given within three trading days after the receipt of the Minimum Proceeds, compel holders to convert all or part of the then outstanding principal amount of the debentures and accrued but unpaid interest and other amounts.

Other than as specifically allowed in the debentures, as long as any of the debentures remain outstanding, the Company may not, without the consent of holders of a majority in principal amount of the then outstanding debentures: incur any indebtedness for borrowed money; grant any liens on its property or assets, repurchase shares of its common stock or common stock equivalents; repurchase or otherwise acquire any indebtedness; pay cash dividends or distributions on any equity securities; enter into any transaction with any affiliate of the Company which would be required to be disclosed in any public filing with the Commission, unless such transaction is made on an arm’s-length basis and expressly approved by a majority of the disinterested directors of the Company; or enter into any agreement with respect to any of the foregoing.

If any event of default occurs, the outstanding principal amount of the debentures, plus accrued but unpaid interest and other amounts owing in respect thereof through the date of acceleration, shall become, at the Holder's election, immediately due and payable in cash. If such amounts are not paid within 5 days after the occurrence of any event of default, interest shall begin to accrue at the lesser of 12% per annum or the maximum rate permitted under applicable law. Events of default consist of: any default in the payment of amounts due and payable that is not cured within three trading days; failure of the Company to observe or perform any other covenant or agreement contained in the debentures that is not cured within the earlier to occur of five trading days after notice of such failure sent by any holder of debentures or ten trading days after the Company has become aware of such failure; the occurrence of any uncured material default or event of default under the other transaction documents or any other material agreement, lease, document or instrument under which the Company or any of its subsidiaries is obligated; any representations or warranties made in the debentures or other transaction documents being materially false when made; an institution of any voluntary or involuntary bankruptcy or other insolvency proceeding or similar or related events; default on any borrowings in excess of \$150,000; the Company's common stock being ineligible for quotation on a trading market for greater than five trading days; the Company entering into any change in control transaction; the Company's failure to deliver shares of common stock as required upon conversion of the debentures; or the Company being the subject of a monetary judgment greater than \$100,000.

Common Stock Purchase Warrants

The warrants have an exercise price of \$1.00 and, if unexercised, expire on February 6, 2019. The warrants are exercisable only following the full or partial conversion of the associated debentures, and in the event of a partial conversion the warrant shall become exercisable only for a proportionate number of the total shares subject to the warrant. In the event any debentures cease to be outstanding prior to the associated warrants becoming exercisable, whether by reason of repayment, prepayment, redemption or otherwise, the associated warrants will automatically terminate.

The warrant exercise price and/or the common stock issuable pursuant to the warrants are 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.

The Company filed the related disclosures with the Securities and Exchange Commission on Form 8-K filed on February 10, 2014.

**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 February 10, 2014.
