

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

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FORM 8-K

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CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of Report: June 19, 2012  
(Date of earliest event reported)

**NOVELOS THERAPEUTICS, INC.**  
(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction  
of incorporation)

**333-119366**  
(Commission  
File Number)

**04-3321804**  
(IRS Employer  
Identification Number)

**One Gateway Center, Suite 504**  
**Newton, MA 02458**  
(Address of principal executive offices)

**(617) 244-1616**  
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**ITEM 7.01 REGULATION FD DISCLOSURE**

A copy of the press release issued by us on June 19, 2012 announcing initial imaging results in a clinical trial of I-124-CLR1404 (LIGHT), a cancer-targeted PET imaging agent, in patients with primary or metastatic brain cancer, is furnished as Exhibit 99.1 and is incorporated by reference.

**ITEM 9.01 FINANCIAL STATEMENTS AND EXHIBITS**

(d) Exhibits

Number	Title
99.1	Press Release dated June 19, 2012 entitled "Novelos Therapeutics Announces Positive Initial Imaging Results in Brain Cancer Trial with I-124-CLR1404(LIGHT) Cancer-Targeted Pet Imaging Agent at UW Carbone Cancer Center"

**SIGNATURE**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: June 20, 2012

**NOVELOS THERAPEUTICS, INC.**

By: /s/ Harry S. Palmin

Name: Harry S. Palmin

Title: President and Chief Executive Officer

**EXHIBIT INDEX**

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**FOR IMMEDIATE RELEASE**

**NOVELOS THERAPEUTICS ANNOUNCES POSITIVE INITIAL IMAGING RESULTS IN BRAIN CANCER TRIAL WITH I-124-CLR1404 (LIGHT) CANCER-TARGETED PET IMAGING AGENT AT UW CARBONE CANCER CENTER**

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*Expects Final Imaging Results in the First Quarter 2013*

**MADISON, WI, June 19, 2012** – **Novelos Therapeutics, Inc. (OTCQX: NVLT)**, a pharmaceutical company developing novel drugs for the treatment and diagnosis of cancer, today announced that the University of Wisconsin Carbone Cancer Center (UWCCC), a leading oncology research institution, has successfully dosed three patients in a Phase 1-2 positron emission tomography (PET) imaging trial of I-124-CLR1404 (LIGHT), a cancer-targeted PET imaging agent, in patients with primary or metastatic brain cancer. The three glioma patients were dosed with LIGHT at 5 mCi. Details of the trial design are available at [www.clinicaltrials.gov](http://www.clinicaltrials.gov) ID: NCT01540513, or at [www.novelos.com](http://www.novelos.com) in the 'Clinical Trials' section. Lance Hall, M.D., is the trial's principal investigator. This trial is being funded by the UWCCC and the Institute for Clinical and Translational Research (ICTR). Detailed trial results are expected to be presented at a scientific venue at a later date.

“Despite recent advances in diagnostic and therapeutic techniques, prognosis of patients with many brain tumors, and particularly malignant gliomas, remains dismal. This reflects in part the diagnostic uncertainty in identifying infiltrative tumor growth of malignant gliomas which in turn affects subsequent treatment strategies,” said Dr. Hall. “The preliminary results from these three glioma patients are very encouraging. We see strong and sustained uptake of LIGHT in cancerous tumors against very low background and have not observed any adverse safety signals. Interestingly, LIGHT’s cancerous tumor to normal tissue uptake ratio exceeded 30:1 in one tumor, which compares favorably with PET agents that are generally considered good tumor biomarkers if tumor to normal tissue uptake ratios are in the range of 3:1 and 5:1.”

“Having observed well-tolerated cancer-specific uptake with LIGHT at 5 mCi in three glioma patients, we look forward to evaluating more patients at this dose level in this indication,” said Kim Hawkins, Vice President of Clinical Development of Novelos.

“We are very pleased by both the positive initial LIGHT imaging data in brain cancer patients obtained to date, and our continuing collaboration with the UWCCC,” said Harry Palmin, President and CEO of Novelos. “We believe these results begin to establish proof-of-concept for LIGHT as a PET imaging agent for brain cancer, and could be used to calculate effective doses for Phase 2 clinical trials of I-131-CLR1404 (HOT) in this indication. HOT is our chemically identical small-molecule, broad-spectrum, cancer-targeted molecular radiotherapeutic that delivers cytotoxic radiation directly and selectively to cancer cells and cancer stem cells.”

#### **About LIGHT**

LIGHT is a small molecule imaging agent that we believe has first-in-class potential for selective detection of tumors and metastases in a broad range of cancers. LIGHT is comprised of a small, non-pharmacological quantity of CLR1404 (COLD, acting as a cancer-targeted delivery and retention vehicle) labeled with the short-lived radioisotope, iodine-124, a new PET imaging isotope. PET imaging used in conjunction with CT scanning has now become the imaging method of choice in oncology. In studies to date, LIGHT selectively illuminated malignant tumors in 52 of 54 animal models of cancer, demonstrating broad-spectrum, cancer-selective uptake and retention. Investigator-sponsored Phase 1-2 trials of LIGHT as a PET imaging agent are ongoing. The trials include lung cancer, brain cancer and, starting in the third quarter of 2012, other solid tumors. These human trials, if successful, would likely provide proof-of-concept for LIGHT as a PET imaging agent with the potential to supplant the current “gold standard” agent, 18F-fluoro-deoxyglucose (FDG), due to what we believe to be LIGHT’s superior cancer-specificity and more favorable logistics of clinical use. Also, tumor uptake data would likely accelerate clinical development of HOT by predicting efficacy and enabling calculation of efficacious doses of HOT for Phase 2 trials.

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#### **About the UW Carbone Cancer Center in Madison**

The UWCCC is recognized throughout the nation as one of the leading innovators in cancer research, quality patient care and active community involvement. It is the only comprehensive cancer center, as designated by the National Cancer Institute, in Wisconsin. An integral part of the UW School of Medicine and Public Health, the UWCCC unites physicians and scientists who work together in translating discoveries from research laboratories into new treatments that benefit cancer patients. To learn more about clinical studies and other initiatives, visit [www.uwhealth.org/uw-carbone-cancer-center/for-researchers/uwccc/28373](http://www.uwhealth.org/uw-carbone-cancer-center/for-researchers/uwccc/28373)

#### **About Novelos Therapeutics, Inc.**

We are a pharmaceutical company developing novel drugs for the treatment and diagnosis of cancer. Our three cancer-targeted compounds are selectively taken up and retained in cancer cells, including cancer stem cells, versus normal cells. Thus, our therapeutic compounds appear to directly kill cancer cells while minimizing harm to normal cells. This offers the potential for a paradigm shift in cancer therapy by providing efficacy versus all three major drivers of mortality in cancer: primary tumors, metastases and stem cell-based relapse. I-124-CLR1404 (LIGHT) is a small-molecule cancer-targeted PET imaging agent. We believe LIGHT has first-in-class potential and Phase 1-2 clinical trials are ongoing. I-131-CLR1404 (HOT) is a small-molecule, broad-spectrum, cancer-targeted molecular radiotherapeutic that delivers cytotoxic radiation directly and selectively to cancer cells and cancer stem cells. We believe HOT also has first-in-class potential. HOT Phase 1b dose-escalation trial is ongoing and we expect HOT to enter Phase 2 trials in the first quarter of 2013 as a monotherapy for solid tumors with significant unmet medical need. CLR1404 (COLD), a pre-clinical cancer-targeted non-radioactive chemotherapy, works primarily through Akt inhibition. Together, we believe our compounds are able to “find, treat and follow” cancer anywhere in the body in a novel, effective and highly selective way. For additional information please visit [www.novelos.com](http://www.novelos.com)

#### **INVESTOR CONTACTS**

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Novelos Therapeutics, Inc.  
Madison, WI                      Boston, MA

This news release contains forward-looking statements. You can identify these statements by our use of words such as “may,” “expect,” “believe,” “anticipate,” “intend,” “could,” “estimate,” “continue,” “plans,” or their negatives or cognates. Such statements are valid only as of today, and we disclaim any obligation to update this information. These statements are only estimates and predictions and are subject to known and unknown risks and uncertainties that may cause actual future experience and results to differ materially from the statements made. These statements are based on our current beliefs and expectations as to such future outcomes. Drug discovery and development involve a high degree of risk. Factors that might cause such a material difference include, among others, uncertainties related to the ability to attract and retain partners for our technologies, the identification of lead compounds, the successful preclinical development thereof, the completion of clinical trials, the FDA review process and other government regulation, our pharmaceutical collaborators’ ability to successfully develop and commercialize drug candidates, competition from other pharmaceutical companies, product pricing and third-party reimbursement.

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