April 11, 2011

NOVELOS THERAPEUTICS COMPLETES ACQUISITION AND $5.1 MILLION FINANCING TO DEVELOP 3 NOVEL CANCER-TARGETED COMPOUNDS

Trading Under Symbol NVLTD for 20 Trading Days to Reflect Reverse Split

MADISON, WI, April 11, 2011 – Novelos Therapeutics, Inc. (OTCBB: NVLT), a pharmaceutical company developing novel drugs for treatment and diagnosis of cancer, today announced that it has completed its acquisition of Cellectar, Inc., a Wisconsin-based drug development company, in a stock-for-stock transaction. Cellectar shareholders received as consideration shares of Novelos common stock constituting approximately 85% of the outstanding shares of Novelos common stock post-acquisition, or 17,001,638 shares of Novelos common stock, after giving effect to a 1 for 153 reverse stock split effected by Novelos following the close of market on April 8, 2011. Immediately following the acquisition, Novelos sold units consisting of an aggregate of 6,846,537 shares of its common stock and warrants to purchase an aggregate of 6,846,537 shares of its common stock, for gross proceeds of $5,134,903. Each unit consists of one share of common stock at $0.75 per share and a warrant to purchase one share of common stock. The warrants have an exercise price of $0.75 per share and expire in March 2016.

The financing was led by Venture Investors LLC with participation from existing and new investors. We paid aggregate cash fees of $450,000 to financial advisors in connection the acquisition, and placement agent fees consisting of $200,000 in cash and a warrant to purchase 192,931 shares of common stock, at an exercise price of $0.75 per share, in connection with the financing. The units and the shares issued in connection with the acquisition were issued in private placements pursuant to exemptions under Regulation D of the Securities of Act of 1933.

None of the securities have been registered under the Securities Act of 1933, as amended, or any state securities laws. Novelos has agreed to register the resale of the shares of common stock, and the shares of common stock issuable upon exercise of warrants, issued in the private placement under the Securities Act of 1933, as amended.

Novelos will continue to develop Cellectar's three novel cancer-targeted compounds, which are selectively taken up and retained in cancer cells (including cancer stem cells) versus normal cells. COLD, a cancer-targeted chemotherapy that we expect to enter clinical trials late in 2012, works primarily through Akt inhibition. HOT is a small-molecule, broad-spectrum, cancer-targeted radiopharmaceutical that delivers radiation directly and selectively to cancer cells and cancer stem cells. We believe HOT has first-in-class potential, and we expect it to enter a Phase 1b dose escalation trial in the third quarter of this year and Phase 2 trials in mid-2012 in monotherapy for solid tumors with significant unmet medical need. LIGHT is a small-molecule cancer imaging agent. We believe LIGHT also has first-in-class potential and expect it to enter Phase 1/2 clinical trials middle of this year.

"We are very excited to develop COLD, HOT and LIGHT, our three novel cancer-targeted compounds that we believe will represent a paradigm shift in finding, treating and following cancer," said Harry Palmin, President and CEO of Novelos. "We expect this initial financing to provide us with capital into the fourth quarter, during which time we expect clinical progress with LIGHT and HOT and begin work on an IND for COLD."

"In order to elicit a long-term therapy benefit in cancer, it is rapidly becoming clear that the next generation of anticancer agents will need to address tumor heterogeneity including the stem cell component. Our diapeutic tumor selective delivery platform is designed and we believe uniquely poised to accomplish this in an extremely wide variety of cancers," said Jamey Weichert, Ph.D., Founder of Cellectar and Chief Scientific Officer of Novelos.

Effective immediately, Novelos will trade under symbol NVLTD for twenty trading days to reflect the post-split price. On May 6, 2011, Novelos' trading symbol will revert to NVLT.

Rodman & Renshaw, LLC, a wholly owned subsidiary of Rodman & Renshaw Capital Group, Inc. (NASDAQ: RODM), acted as the strategic advisor and exclusive placement agent for this transaction. XMS Capital Partners, LLC acted as the strategic advisor to Cellectar, Inc.

About Novelos Therapeutics, Inc.

We are a pharmaceutical company, headquartered in Madison, WI, developing novel drugs for the treatment and diagnosis of cancer. Our lead drug candidates are based on a cancer-targeting technology whereby our compounds are selectively taken up and retained in cancer cells (including cancer stem cells) versus normal cells. Thus, our compounds directly kill cancer cells while minimizing harm to normal cells. This offers the potential for a paradigm shift in cancer therapy – efficacy versus all three

major drivers of mortality in cancer: primary tumors, metastases and stem cell-based relapse. More specifically, our technology enables targeted delivery to cancer cells of apoptosis-inducing Akt inhibition or, when a radioactive molecule is attached, of radiation sufficient to kill cancer cells. Other labeled variations of our compounds provide imaging agents for an accurate diagnosis of cancer, including metastases, and can also objectively measure therapeutic success. Together, we believe this platform is capable of yielding multiple, distinct oncology product opportunities which will enable us to "find, treat and follow" cancer anywhere in the body in a novel, highly selective way.

CLR1401 ("COLD") is a cancer-targeted chemotherapy that inhibits the phosphatidylinosotol 3-kinase (PI3K)/Akt survival pathway, which is overexpressed in many types of cancer. As a result, COLD selectively inhibits Akt activity, induces caspase-mediated apoptosis and inhibits cell proliferation in cancer cells versus normal cells. COLD also exhibits significant in vivo efficacy in mouse xenograft tumor models, including non-small cell lung cancer and triplenegative breast cancers, producing long-lasting tumor growth suppression and significantly increased survival. We believe COLD has the potential to be best-in-class versus other Akt inhibitors in development due to a) cancer cell/cancer stem cell targeting, resulting in cancerselective inhibition of Akt and cell proliferation or b) suitability for intravenous administration which offers the prospect of greater systemic exposure and superior efficacy. We expect to submit an Investigational New Drug ("IND") application to the Food and Drug Administration ("FDA") in late 2012.

131I-CLR1404 ("HOT", a radiolabeled compound) is a small-molecule, broad-spectrum, cancertargeted radiopharmaceutical that we believe has first-in-class potential. HOT is comprised of a small quantity of COLD, acting as a cancer-targeted delivery and retention vehicle, and incorporating a cytotoxic dose of radiotherapy (in the form of iodine-131, a radioisotope that is already in common use to treat thyroid and other cancer types). It is this "intracellular radiation" mechanism of cancer cell killing that imbues HOT with broad-spectrum anti-cancer activity. In 2009, we opened an IND with the FDA to study HOT in humans. In early 2010, we successfully completed a Phase 1a dosimetry trial in humans demonstrating initial safety and establishing dosing parameters for a Phase 1b dose-escalation trial. The Phase 1b dose-escalation trial is aimed at determining the Maximum Tolerated Dose, and we expect it to begin in 3Q 2011. In parallel, we expect to initiate Phase 2 efficacy trials in solid tumors in 2012 as soon as a minimal efficacious dose is established. We may determine such an effective dose upon seeing a response in the Phase 1b trial or calculating it from imaging trials in patients (see LIGHT below). Preclinical experiments in vitro (in cell culture) and in vivo (in animals) have demonstrated selective killing of cancer cells along with a benign safety profile. HOT's anti-tumor/survivalprolonging activities have been demonstrated in ten different xenograft models (human tumor cells implanted into animals) including breast, prostate, lung, glioma (brain), pancreatic, melanoma, ovarian, uterine, renal and colorectal cancers. In all but one model, a single administration of HOT was sufficient for efficacy. In view of HOT's selective uptake and retention in a wide range of solid tumors and its non-specific mechanism of cancer-killing (radiation), we expect to first develop HOT as a monotherapy, initially for solid tumors.

124I-CLR1404 ("LIGHT", labeled with a shorter-lived radioisotope, iodine-124) is a smallmolecule imaging agent that we believe has first-in-class potential in detecting and quantifying cancerous tumors and metastases. LIGHT is comprised of a small quantity of COLD, acting as a cancer-targeted delivery and retention vehicle, and incorporating 124I, a new positron emission tomography (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 evidence of broad-spectrum, cancer-selective uptake and retention. We expect investigator-sponsored Phase 1/2 trials of LIGHT as a PET imaging agent to begin in mid-2011, and that the trials will initially include glioma, lung and breast cancers. These human trials, if successful, will serve two important purposes. First, they will provide proof-of-concept for LIGHT itself as a PET imaging agent with the potential to supplant the current "gold standard" agent, 18-fluoro-deoxyglucose (FDG), due to what we believe to be LIGHT's superior cancer-specificity and more favorable logistics of clinical use. Second, they will accelerate clinical development of HOT by enabling estimation of efficacious doses of HOT for Phase 2 trials.

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.

For additional information about Novelos please visit www.novelos.com

INVESTOR CONTACTS Patrick Genn Ph: (858) 775-7456 Email: pgenn@novelos.com

Harry S. Palmin, President and CEO Ph: 617-244-1616 x11 Email: hpalmin@novelos.com

Novelos Therapeutics, Inc. Madison, WI Boston, MA