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**Onconova Therapeutics Announces Publication of Positive Phase I
Results for Lead Anticancer Compound in
*Journal of Clinical Oncology***

*– First-in-Class Drug Shows Tolerability and Anti-Cancer Activity;
Additional Studies in Progress –*

OCTOBER 28, 2008 – NEWTOWN, PA – Onconova Therapeutics, Inc. announced today the publication of positive results from a first-in-human Phase I clinical trial of its lead anticancer drug, ON 01910.Na, in advanced refractory solid tumors. The publication will be online today in the *Journal of Clinical Oncology* and will appear in a future print edition of the journal. A first-in-class targeted therapy, ON 01910.Na is a potent and selective mitotic pathway modulator that selectively disrupts the cell cycle transition in cancer cells at the G2-M stage, leading to their self-destruction.

The Phase I dose escalation study, which is now complete, was conducted at the Sidney Kimmel Comprehensive Cancer Center of the Johns Hopkins University, Baltimore, MD. The principal investigator for this study was Dr. Ross C. Donehower. For the study, escalating dose levels were evaluated in single-patient cohorts in 20 patients (11 female, 9 male; ages 46-73 years) with solid tumors previously treated with multiple chemotherapy regimens. The primary objectives of the trial were to establish the safety profile, to define the maximum tolerated dose (MTD) and the recommended dose for further studies, and to establish the pharmacokinetic profile. A secondary objective was to document any tumor responses.

The results demonstrate that ON 01910.Na given in doses from 80 to 3120 mg as a two-hour infusion twice a week, for 3 weeks in a 28-day cycle, is well tolerated. Pharmacokinetics evaluation showed dose proportional increase of ON 01910.Na in the blood.

The study also recorded clear evidence of anti-cancer activity. A patient with ovarian cancer who progressed on previous rounds of platinum and topotecan-based regimens had a partial response after four cycles of ON 01910.Na and remained progression-free for 24 months. Another patient with liver cancer had a stabilization of disease for two months.

“The results of this Phase I trial are very encouraging, and we believe it reaffirms the potential for our lead compound ON 01910.Na to be an important new treatment for multiple forms of

solid tumors and hematological malignances,” said. François Wilhelm, M.D., PhD, Chief Medical Officer and Senior Vice President of Onconova.

“These results confirm the remarkable activity we’ve seen in numerous preclinical studies and support our strategy of conducting both single agent and combination therapy clinical trials in a broad spectrum of cancer patient,” said Dr. Ramesh Kumar, President and CEO of Onconova. “Additional Phase I and Phase II studies to further explore the compound’s potential applications are in progress.”

About ON 01910.Na

ON 01910.Na, is a targeted small-molecule anti-cancer compound undergoing multiple clinical trials at several major clinical centers in the U.S. and abroad. In nonclinical studies, ON 01910.Na has shown broad-spectrum anti-tumor activity against both solid tumors and hematological malignancy and has demonstrated striking synergistic activity when combined with several classes of conventional chemotherapeutic agents. Extensive Phase I data from five different clinical protocols are now available and indicate excellent tolerability and safety. Evidence of activity of ON 01910.Na in solid tumor and hematological indications has also been documented. Onconova is currently conducting additional single agent and combination therapy clinical trials of ON 01910.Na with leading investigators at major oncology centers in the U.S., including National Institutes of Health (NIH) in Maryland; Mount Sinai Hospital in New York; Albert Einstein/Montefiore Medical Centers in New York and the University of Colorado. Clinical studies are also underway at leading medical centers in India. Each study explores a different dose schedule of single agent or combination therapy protocol. More than 115 cancer patients have been treated in these trials. Currently, all trials are employing a parenteral formulation of the drug; an oral formulation is in advanced development and expected to enter the clinic shortly.

Onconova’s Product-Pipeline

Onconova is developing therapeutic candidates directed at critical targets involved in signal transduction, cell-cycle and DNA repair. These candidates are derived from the Company’s proprietary library of new chemical entities and non-ATP competitive chemotypes. In addition to ON 01910.Na, Onconova is also developing Ex-RAD™, an injectable and oral radioprotectant. Other promising programs include regulators of Cyclin D, JAK and Bcr-abl pathways. Two of these compounds are expected to enter clinical development within a year.

About Onconova Therapeutics, Inc.

Onconova, with offices in Newtown, PA and Lawrenceville, NJ, discovers and develops novel small molecule therapeutic agents for cancer, radiation protection and hematological disorders. Employing a proprietary chemical library platform, Onconova has discovered non-ATP competitive kinase inhibitors directed at validated and novel targets, and is developing a new immunoconjugate technology (comprising potent active compounds and proprietary linkers) that arm monoclonal antibodies for cancer therapy. All of the Company’s products and technologies are being developed internally.

For more information on Onconova Therapeutics, Inc., please visit www.onconova.com.
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