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Onconova Therapeutics Announces Presentation of Clinical and Nonclinical Data on Lead Compound ON 01910.Na and New Sulfonamide Compounds at AACR

APRIL 11, 2008 – NEWTOWN, PA – Onconova Therapeutics, Inc. today announced the presentation of four scientific studies relating to its lead anticancer drug ON 01910.Na and new sulfonamide anticancer compounds at the Annual Meeting of the American Association for Cancer Research (AACR), held April 12-16, 2008 in San Diego.

The data will be presented in one oral presentation and three posters during the AACR meeting.

Three of the presentations will focus on ON 01910.Na, a novel, targeted, small-molecule anti-cancer compound undergoing multiple clinical trials at several major clinical centers in the USA 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 remarkable 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, including a complete response, has also been documented. Onconova is currently conducting additional single agent trials and new combination therapy clinical trials of ON 01910.Na with leading investigators at major oncology clinical centers in the USA.

The fourth presentation introduces a new class of small molecule anti-tubulin agents that belong to the sulfonamide family.

AACR Presentations:

Sunday, April 13, 4:40 PM - 4:55 PM

Room 33A-C, San Diego Convention Center

Session Title: Small Molecule Inhibitors of Novel Targets

Abstract # 1597

“A gene expression-based approach to devise combinations with gemcitabine (GEM) in pancreatic cancer (PC) identifies polo-like kinase 1 (Plk1) as a rational target”

Antonio Jimeno, Jenna Wheelhouse, Fonda Chan, Audrey Chan, Anna Solomon, Aik Choon Tan, Rajeshkumar NV, Manuel Hidalgo. Sidney Kimmel Comprehensive Cancer Ctr., Baltimore, MD

Dr. Jimeno will report assessment of antitumor activity of ON 01910.Na used as a single agent and in combination with gemcitabine in a nude mouse model for pancreatic cancer. In this model human tumor explants (rather than cell-lines) were employed. Single agent activity was noted in a significant subset of the explants, including some explants that were resistant to gemcitabine. In combination therapy, the two compounds had additive or better effect, in particular in gemcitabine refractory explants. Tumor biopsy samples were used to obtain molecular profiling data correlating drug activity with several potential biomarkers. A clinical trial to test this paradigm is expected to start soon at four sites in the US.

Wednesday, April 16, 8 a.m. -12 p.m.

Exhibit Hall B-F, San Diego Convention Center

Session Title: Cell Cycle 3

Abstract# 5081

“Novel anticancer agent ON 01910.Na induces phosphorylation of cdc25C-cdc2 via ATM-Chk2 activation, leading to cell cycle arrest and apoptosis of human leukemia cells”

Duo Chen, Svetlana Zinzar, S Cosenza, E Premkumar Reddy, James F. Holland, Lewis R. Silverman. Mount Sinai School of Medicine, New York, NY, Fels Institute Temple University School of Medicine, Philadelphia, PA

In this nonclinical study, leukemia cells were treated with ON 01910.Na in vitro to identify pathways involved in its antitumor activity. Biochemical assays were performed to investigate pathways of DNA repair, apoptosis and cell cycle regulation. These studies further illuminate the novel mode of action of ON 01910.Na.

Wednesday, April 16, 8 a.m. -12 p.m.

Exhibit Hall B-F, San Diego Convention Center

Session Title: Heat Shock Protein Inhibitors, Aurora Kinase, and Other Mitotic Inhibitors

Abstract #5652

“ON 01910.Na, a novel polo-like kinase pathway modulator as a treatment for patients with advanced cancer”

Mohammad H. Ghalib, Jeffrey Weinstein, Manoj Maniar, Imran Chaudhary, Chandan Guha, Stephen Cosenza, David Taft, M.V. Ramana Reddy, E. Premkumar Reddy, Sridhar Mani, Sanjay Goel. Albert Einstein College of Medicine, Bronx, NY, Onconova Therapeutics, Inc., Newtown, PA, Long Island University, New York, NY, Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, Philadelphia, PA

This is the first presentation of a Phase I dose escalation study of ON 01910.Na administered as a weekly 24-h infusion to advanced solid tumor patients. Patients previously treated with multiple

chemotherapy regimens received multiple cycles of ON 01910.Na. Assessment of various safety parameters and drug activity will be discussed. This infusion schedule is currently also being tested in combination therapy studies (with oxaliplatin or irinotecan).

Sunday, April 13, 1-3 p.m.

Poster Section 28

Exhibit Hall B-F, San Diego Convention Center

Session Title: Experimental and Molecular Therapeutics 9: Inhibition of Microtubule Function

Abstract # 1410

“Design, synthesis and biological evaluation of novel, orally available tubulin depolymerizing (E) N-aryl-2-arylethanesulfonamide compounds.

M V Ramana Reddy, Stephen C. Cosenza, Venkat R. Pallela, Srinivas R. Natalia, Muralidhar R. Mallireddigari, Manoj Maniar, Nabissa M. Iqbal, E Premkumar Reddy
Fels Institute, Philadelphia and Onconova Therapeutics, Inc. Newtown, PA

Small molecule inhibitors of tubulin polymerization were designed to address many shortcomings of existing agents of this class. These broad-spectrum anticancer agents described in this nonclinical study are novel styryl-sulfonamides with potential for parenteral and oral delivery.

In addition, Dr. E. Premkumar Reddy, Onconova’s scientific founder, will present a talk at the AACR meeting at 11:15 a.m. PT on Friday, April 11 entitled “Design, Synthesis and Biological evaluation of jak2/bcr-abl dual kinase inhibitors” in the session **“Structure-based Drug design: An indispensable tool for Anti-Cancer Drug Discovery.”**

About 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, and inhibitors of JAK and Bcr-abl pathways. These compounds were invented by Dr. E. Premkumar Reddy and colleagues at the Fels Institute and exclusively licensed to Onconova Therapeutics, Inc.

About Onconova Therapeutics, Inc.

Onconova, based in Newtown, PA, discovers and develops novel small molecule therapeutic agents for cancer, radiation protection and hematological disorders. Currently, the Company is conducting clinical trials at major centers in the USA and abroad. The novel chemical library platform is permitting identification of non-ATP competitive kinase inhibitors directed at validated and novel targets, and a new immunoconjugate technology (comprising potent active compounds and proprietary linkers) for arming 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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