

**Contact:**

**Kathryn Morris**  
PR on Call  
845-635-9828  
[kathryn@proncall.com](mailto:kathryn@proncall.com)

**Scott Megaffin**  
Onconova Therapeutics  
267-759-3680  
[smegaffin@onconova.us](mailto:smegaffin@onconova.us)

**Onconova to Present Data Demonstrating Survival Benefit in MDS Patients Treated with Rigosertib and Phase I Data for Oral Rigosertib at the American Society of Hematology Annual Meeting**

- Oral Rigosertib (ON 01910.Na) Advancing to Phase II -

- Rigosertib-Mediated Inhibition of PI3K & MAPK Pathways Validated in Patient Bone Marrow Samples -

NEWTOWN, PA and PENNINGTON, NJ Dec. 10, 2011 / Onconova Therapeutics announces three presentations relating to clinical trials of its Phase III-stage anticancer agent, rigosertib sodium (Estybon<sup>®</sup> or ON 01910.Na), at the 53<sup>rd</sup> American Society of Hematology (ASH) Annual Meeting in San Diego, CA, December 10-13, 2011. The presentations highlight data from five clinical trials with rigosertib for myelodysplastic syndrome (MDS) in both intravenous and oral formulations as well as identification of biomarkers employing a nano-immunoassay (NIA) in bone marrow cells from MDS patients in clinical trials.

Results of bone marrow blast response and overall survival in 60 patients with MDS treated with intravenous rigosertib are reported from four Phase I/II trials. A substantial proportion of patients had clinically significant reduction or stabilization in blasts (cancerous cells) and a correlation was evident between blast reduction and overall survival benefit. Rigosertib infusion showed no evidence of bone marrow toxicity. Principal investigators Azra Raza, M.D. (Columbia University Medical Center), Lewis R. Silverman, M.D. (Mount Sinai Medical Center), Matthew J. Olnes, M.D., Ph.D. (National Institutes of Health, NHLBI) and Peter L. Greenberg, M.D. (Stanford Cancer Institute) will report these results (Abstract #3822). Based on these studies a randomized Phase III survival trial of rigosertib treatment in high-risk MDS patients who have failed or progressed after receiving hypomethylating agents, the “ONTIME” trial (ON 01910.Na Trial In Myelodysplastic Syndrome), is now being conducted in more than 50 U.S. and European sites.

An oral dosage form of rigosertib has completed a Phase I dose escalation trial in MDS patients enrolled at the H. Lee Moffitt Cancer Center and Columbia University Medical Center, by Rami Komrokji, M.D. and colleagues, and Azra Raza, M.D., respectively (Abstract #3797). Pharmacodynamically relevant drug levels were achieved in MDS patients with the rigosertib capsule formulation. Signs of clinical activity were observed, including two cases of bone marrow responses in higher-risk patients refractory to hypomethylating agents, reduced needs for red cell transfusions in low-risk, transfusion-dependent patients, and transition to transfusion independence in some patients. Based on these results, Phase II

studies will be conducted in Low or Intermediate-1 risk, transfusion-dependent MDS patients at Columbia and other sites.

A highly sensitive microfluidic nano-immunoassay (NIA) was employed to quantify phosphorylation of various signaling proteins in bone marrow cells of high-risk MDS patients before and after treatment with rigosertib by Alice C. Fan, M.D. and colleagues at Stanford University Cancer Institute (Abstract #3808). The reported results validate rigosertib-mediated inhibition of the PI3K and MAPK pathways critical to tumor cell survival. Detection of specific isoforms of phospho-MEK (in the MAPK signaling pathway) and phospho-AKT (in the PI3K pathway) provide potential biomarkers of rigosertib activity in MDS.

### **About Rigosertib Sodium**

Rigosertib sodium (ON 01910.Na) is a small molecule inhibitor of critical pathways important in the growth and survival of cancer cells. Extensive Phase I and Phase II studies with rigosertib have been conducted at leading institutions in the U.S. and abroad in more than 450 patients with solid tumors and hematological cancers, including MDS and AML. MDS and AML are blood disorders widely recognized as difficult to manage, with limited therapeutic options available for patients, especially those with drug-resistant disease. The multi-site Phase III ONTIME trial in MDS patients is under a Special Protocol Assessment (SPA) from the U.S. FDA and is being supported by an award from the Therapeutics Acceleration Program (TAP) of the Leukemia and Lymphoma Society (LLS). FDA has granted Orphan Drug Designation for the use of rigosertib in MDS. The clinical program in solid tumors is also advancing with initiation of the Phase II/III combination ONTRAC trial (ON 01910.Na TRial in Patients with Advanced Pancreatic Cancer) and Phase II single agent trial in ovarian cancer. A U.S. patent covering ON 01910.Na is issued with international patent coverage.

### **About Onconova Therapeutics<sup>®</sup>, Inc.**

Onconova Therapeutics, based in Newtown, PA and Pennington, NJ, discovers and develops novel small molecule therapeutics directed against targets involved in signal transduction, cell-cycle, and DNA repair. These candidates are derived from a proprietary new chemical entities and non-ATP competitive chemotypes. In addition to rigosertib sodium (ON 01910.Na), Onconova is developing two other products in clinical trials: ON 01210.Na (Ex-RAD<sup>®</sup>), an injectable and oral radioprotectant, and ON 013105 for refractory lymphomas. The oncology preclinical pipeline at Onconova includes inhibitors of Plk2, ALK, CDK, JAK, and Bcr-Abl pathways and a novel immunoconjugate platform for arming therapeutic antibodies. For additional information, please visit <http://www.onconova.com>.

## **Summary of ASH Presentations Relating to Rigosertib Sodium (ON 01910.Na)**

**Monday, December 12, 6:00 PM-8:00 PM:**

Session: 633 Myelodysplastic Syndromes: Poster III, Hall GH (San Diego Convention Center)

Abstract #3822

### **“Final Phase I/II Results of Rigosertib (ON 01910.Na) Hematological Effects in Patients with Myelodysplastic Syndrome and Correlation with Overall Survival”**

**Azra Raza, MD<sup>1</sup>**, Peter L Greenberg, MD<sup>2</sup>, Matthew J Olnes, MD, PhD<sup>3</sup>, Lewis R Silverman, MD<sup>4\*</sup> and Francois Wilhelm, MD, PhD<sup>5</sup>

<sup>1</sup>Columbia University Medical Center, New York, NY

<sup>2</sup>Stanford Cancer Center, Hematology Division, Stanford University, Stanford, CA

<sup>3</sup>National Institutes of Health, National Heart, Lung, and Blood Institute, Bethesda, MD

<sup>4</sup>Division of Hematology, Mount Sinai School of Medicine, New York, NY

<sup>5</sup>Onconova Therapeutics, Inc, Newtown, PA

Abstract #3797

### **“Oral Formulation of Rigosertib (ON 01910.Na) in Patients with Myelodysplastic Syndrome (MDS) – Phase I Study Results”**

**Rami S Komrokji, MD<sup>1</sup>**, Alan F List, MD<sup>2</sup>, Francois Wilhelm, MD, PhD<sup>3</sup>, Jeffrey E Lancet, MD<sup>1</sup> and Azra Raza, MD<sup>4</sup>

<sup>1</sup>Malignant Hematology, H Lee Moffitt Cancer Center & Research Institute, Tampa, FL

<sup>2</sup>Moffitt Cancer Center, Tampa, FL

<sup>3</sup>Onconova Therapeutics, Inc, Newtown, PA

<sup>4</sup>Columbia Presbyterian Medical Center, New York, NY

Abstract #3808

### **“A Novel Nano-Immunoassay (NIA) Reveals Inhibition of PI3K and MAPK Pathways in CD34+ Bone Marrow Cells of Patients with Myelodysplastic Syndrome (MDS) Treated with the Multi-Kinase Inhibitor ON 01910.Na (Rigosertib)”**

**Alice C Fan, MD<sup>1</sup>**, Liwen Xu, PhD<sup>1</sup>, Kunju J Sridhar, PhD<sup>2</sup>, Mai Tran<sup>2</sup>, Prajna Banerjee, PhD<sup>1</sup>, John P Renschler<sup>1</sup>, Radha Tripuraneni, MD<sup>2</sup>, Francois Wilhelm, MD, PhD<sup>3</sup>, Peter L Greenberg, MD<sup>2</sup> and Dean W Felsher, MD, PhD<sup>1</sup>

<sup>1</sup>Oncology, Stanford University Cancer Institute, Stanford, CA

<sup>2</sup>Stanford Cancer Center, Hematology Division, Stanford University, Stanford, CA

<sup>3</sup>Onconova Therapeutics, Inc, Newtown, PA

###