For Immediate Release

OncoMed Pharmaceuticals Announces Presentations of Anti-Notch2/3 and Demcizumab Clinical Data at EORTC-NCI-AACR Meeting

Dublin, Ireland – November 9, 2012 - OncoMed Pharmaceuticals, Inc., a clinical-stage company developing novel therapeutics that target cancer stem cells (CSCs), or tumor-initiating cells, today announced multiple presentations of clinical data on its Anti-Notch2/3 and demcizumab programs at the 24th EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics in Dublin, Ireland. Phase I clinical data on Anti-Notch2/3 were featured in an oral plenary session and additional clinical biomarker data were presented in a poster session. Demcizumab Phase Ib clinical data in non-small cell lung cancer patients were also featured in a separate poster session.

Anti-Notch2/3 (OMP-59R5)

The oral presentation, "A First-in-Human Phase I Study to Evaluate the Fully Human Monoclonal Antibody OMP-59R5 (anti-Notch2/3) Administered Intravenously to Patients with Advance Solid Tumors" (abstract #28), was presented by Principal Investigator David C. Smith, Professor of Medicine and Urology and the University of Michigan Cancer Center. In the clinical trial (n=39 patients), OMP-59R5 was generally well tolerated, with diarrhea as the main treatment-related and dose-related adverse event. Maximum tolerated doses (MTDs) have been established at doses of 2.5mg/kg weekly and 7.5mg/kg every three weeks. An every two week dosing schedule is also under investigation. Prolonged stable disease was noted in multiple tumor types, including adenoid cystic carcinoma, liposarcoma, Kaposi's sarcoma, rectal cancer, and triple-negative breast cancer. Based on these data, OncoMed has advanced Anti-Notch2/3 into an ongoing Phase Ib/II "ALPINE" trial (**A**ntibody therapy in first-**L**ine **P**ancreatic cancer **I**nvestigating anti-**N**otch **E**fficacy and safety) in first-line advanced pancreatic cancer patients.

In addition, the company presented a poster (Abstract #314, Poster #64) describing the results of a comprehensive biomarker analysis in the Anti-Notch2/3 Phase 1 study, which demonstrated pharmacodynamic (PD) modulation of the Notch pathway in patients with advanced solid tumors. Principal Investigator Dr. Anthony Tolcher and colleagues of The START Center for Cancer Care, San Antonio, TX concluded that the PD effects of OMP-59R5 on Notch targets, stem cell pathways in surrogate tissues, and in tumor tissue on serial biopsy were clearly established in this first-in-human study at doses equal to or greater than 1mg/kg every other week.

Demcizumab (Anti-DLL4, OMP-21M18)
Interim Phase Ib clinical data in non-small cell lung cancer was presented in a poster session (Abstract #598, Poster #169) at the meeting. Principal Investigator Dr. Mark McKeage of the University of Auckland, Auckland, New Zealand and colleagues reported that in 17 evaluable patients, treatment of demcizumab plus pemetrexed and carboplatin resulted in disease control (partial response plus stable disease by RECIST) in 94% (16 of 17) of patients, including a 44% RECIST partial response rate. Additionally, two patients treated with 5mg/kg every three weeks remain progression free for greater than 16 months. Demcizumab was well tolerated, with fatigue and hypertension being the most common drug-related toxicities. Importantly, no patients experienced significant left ventricular ejection fraction declines or clinical congestive heart failure, which indicates that OncoMed's cardiovascular risk mitigation plan was effective in this trial. Based on this data, OncoMed believes further development of demcizumab in non-small cell lung cancer is warranted.

"Both demcizumab and Anti-Notch2/3 appear to have tolerable safety profiles, and we are encouraged by the efficacy and biomarker results to date," noted Jakob Dupont, MD, OncoMed's Chief Medical Officer.

Paul Hastings, President and Chief Executive Officer of OncoMed, added, "We are excited to present clinical data on two of our anti-cancer stem cell investigational product candidates at the EORTC-AACR-NCI meeting, and we look forward to advancing both of these product candidates further in clinical development."

About OMP-59R5
OMP-59R5 is a fully human monoclonal antibody that targets the Notch2 and Notch3 receptors. Initially discovered by screening a phage display library against the Notch2 receptor, the antibody binds to a conserved epitope on Notch2 and Notch3. Preclinical studies have demonstrated that OMP-59R5 exhibits two mechanisms of action: (1) by downregulating Notch pathway signaling, OMP-59R5 appears to have anti-CSC effects, and (2) OMP-59R5 affects pericytes, impacting stromal and tumor microenvironment. The program is currently in Phase Ib/II in first-line advanced pancreatic cancer patients. OMP-59R5 is part of OncoMed's collaboration with GlaxoSmithKline (GSK). GSK has an option to obtain an exclusive license to OMP-59R5 following completion of certain proof-of-concept Phase II trials.

About Demcizumab (Anti-DLL4, OMP-21M18)
Demcizumab (OMP-21M18) is a humanized monoclonal antibody that inhibits Delta Like Ligand 4, or DLL4, in the Notch signaling pathway. Two Phase Ib combination trials of demcizumab are ongoing. The first trial is in combination with standard-of-care gemcitabine in first-line advanced pancreatic cancer patients, and the second trial is in combination with standard-of-care carboplatin and pemetrexed (Alimta®) in first-line advanced non-small-cell lung cancer, or NSCLC, patients. OncoMed has worldwide rights to this program.

About Cancer Stem Cells
Cancer stem cells, or CSCs, are the subpopulation of cells in a tumor responsible for driving growth and metastasis of the tumor. CSCs, also known as tumor-initiating cells, exhibit certain properties which include the capacity to divide and give rise to new CSCs via a process called self-renewal and the capacity to differentiate or change into the other cells that form the bulk of the tumor. Common cancer drugs target bulk tumor cells but have limited impact on CSCs, thereby providing a path for recurrence of the tumor. OncoMed's product candidates target CSCs by blocking self-renewal and driving differentiation of CSCs toward a non-tumorigenic state, and also impact bulk tumor cells. OncoMed believes its product candidates are distinct

from the current generations of chemotherapies and targeted therapies, and have the potential to significantly impact cancer treatment and the clinical outcome of patients with cancer.

About OncoMed Pharmaceuticals
OncoMed Pharmaceuticals is a clinical-stage company that discovers and develops novel therapeutics targeting cancer stem cells, the cells shown to be capable of driving tumor growth, recurrence and metastasis. OncoMed has advanced five anti-cancer therapeutics into the clinic, including demcizumab (OMP-21M18, Anti-DLL4), OMP-59R5 (Anti-Notch2/3), OMP-52M51 (Anti-Notch1), OMP-18R5 (Anti-Fzd7), and OMP-54F28 (Fzd8-Fc), which target key cancer stem cell signaling pathways including Notch and Wnt. In addition, OncoMed's pipeline includes several novel preclinical product candidates targeting multiple validated cancer stem cell pathways, including the RSPO-LGR pathway. OncoMed has formed strategic alliances with Bayer Pharma AG and GlaxoSmithKline. Privately held, OncoMed's investors include: US Venture Partners, Latterell Venture Partners, The Vertical Group, Morgenthaler Ventures, Phase4Ventures, Delphi Ventures, Adams Street Partners, De Novo Ventures, Bay Partners and GlaxoSmithKline. Additional information can be found at the company's website: www.oncomed.com.

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