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Spectrum Pharmaceuticals Highlights Clinical Data for Captisol-Enabled™ (Propylene Glycol-Free) Melphalan at the 2015 BMT Tandem Meeting

- Results support the safety and efficacy of high-dose Captisol-enabled (CE)-Melphalan as a high-dose conditioning treatment prior to autologous hematopoietic stem cell transplantation (AHCT) in patients with multiple myeloma (MM).
- Overall Response Rate improved from 79% at study entry to 95% after CE-Melphalan and AHCT; Complete Response Rate increased from 10 to 31%.
- Spectrum's CE-Melphalan formulation is free of propylene glycol and does not use a custom, propylene glycol-containing solvent for its reconstitution.
- CE-Melphalan is more stable with a longer use time, simplifying clinical administration logistics.
- CE-Melphalan was shown to be bioequivalent to the currently approved commercial intravenous formulation of melphalan.
- FDA decision is expected in late 2015. If approved, the Company plans to launch CE-Melphalan with its existing hematology/oncology sales force.

HENDERSON, Nev.--(BUSINESS WIRE)-- **Spectrum Pharmaceuticals (NasdaqGS: SPPI)**, a biotechnology company with fully integrated commercial and drug development operations with a primary focus in Hematology and Oncology, today announced results of a clinical study of Propylene Glycol (PG)-Free, Captisol-enabled Melphalan (CE Melphalan) Conditioning for Autologous Hematopoietic Stem Cell Transplantation (AHCT) in Patients with Multiple Myeloma (MM). Spectrum filed a New Drug Application (NDA) for approval of CE-Melphalan in December 2014 and expects a decision from the Food and Drug Administration (FDA) by late 2015.

"CE-Melphalan is a key late-stage drug for the company, and we are excited to share these clinical data," said Rajesh C. Shrotriya, MD, Chairman and Chief Executive Officer of Spectrum Pharmaceuticals. "CE-Melphalan is a new injectable formulation of melphalan that incorporates the Captisol brand of β-cyclodextrin improving the solubility and stability of melphalan. It also facilitates the use of an aqueous diluent (normal saline) instead of propylene glycol, which is associated with toxicities including renal dysfunction and arrhythmias. CE-Melphalan will fit seamlessly into our existing commercial infrastructure if it is approved by the FDA. Spectrum is committed to deliver improved treatment options to patients suffering with cancer."

"Intravenous melphalan has become the standard of care conditioning agent used for high-dose treatment of MM patients undergoing AHCT, and the substitution of Captisol in CE-Melphalan addresses some of the limitations of the currently approved formulations," said Dr. Parameswaran Hari, Armand J. Quick/William F. Stapp Professor of Hematology at the Medical College of Wisconsin, Director of the Adult Blood and Marrow Transplant Program at Froedtert Hospital and the Section Head of Hematologic Malignancies and Transplantation, in the Division of Hematology and Oncology in the Department of Medicine. "The improved stability of the CE-Melphalan HCl formulation may potentially ensure that cancer patients receive the full, intended therapeutic dose of IV melphalan by increasing the use time and infusion time of IV Melphalan, and simplifying clinical administration logistics."

Following is the summary of the presentation:

Abstract #155 Results of a Phase II Study of Propylene Glycol (PG)-Free, Captisol-Enabled Melphalan Conditioning for Autologous Hematopoietic Stem Cell Transplantation (AHCT) in Patients with Multiple Myeloma (MM)

Sixty-one patients with MM received 200 mg/m^2 of CE-Melphalan (100 mg/m^2/day x 2) followed by AHCT. The number of lines of prior therapy ranged from 1 to 4, and 9 (15%) pts had high risk cytogenetics. Disease status Pre-treatment included Complete Response (CR) in 10% of subjects, Very Good Partial Response (VGPR) in 36% and Partial Response (PR) in 33% subjects. All subjects (100%) achieved myeloablation followed by successful bone marrow engraftment. Median time to neutrophil engraftment was 12 days and to platelet engraftment was 13 days post-AHCT. There were no deaths by Day 100, and the most common Grade 3 and 4 toxicities were the expected hematologic events (neutropenia, leukopenia, lymphopenia, thrombocytopenia and anemia). The most frequent non-hematologic adverse events included diarrhea, nausea, and fatigue. Importantly, the incidence of severe mucositis was low (Grade 3/4; 10%). At Day 100 post-AHCT, the ORR increased to 95% with 74% of subjects achieving a > = VGPR response

including stringent CR in 16%, CR in 15% and VGPR in 43%.

Conclusions: CE-Melphalan led to successful myeloablation and subsequent engraftment in MM patients with no mortality or unexpected transplant-related toxicity; the incidence of Grade 3-4 mucositis was low. Overall, 95% of subjects (n=61) responded to high dose CE-Melphalan, and in the subgroup of high risk patients (15%), 67% VGPR or better responses were achieved.

In December 2014, Spectrum submitted a NDA to the FDA for the approval of CE-Melphalan (propylene glycol-free) for use as a high-dose conditioning treatment prior to AHCT in patients with MM. Spectrum is also seeking approval for the palliative treatment of patients with MM for whom oral therapy is not appropriate.

Spectrum Pharmaceuticals gained global development and commercialization rights to CE-Melphalan from Ligand Pharmaceuticals Incorporated (NASDAQ: LGND) in March 2013. Spectrum assumed the responsibility for the pivotal clinical trial and was responsible for filing the NDA. Under the license agreement, Ligand received a license fee and is eligible to receive milestone payments, as well as royalties following potential commercialization.

About Spectrum Pharmaceuticals, Inc.

Spectrum Pharmaceuticals is a leading biotechnology company focused on acquiring, developing, and commercializing drug products, with a primary focus in oncology and hematology. Spectrum and its affiliates market five oncology drugs— FUSILEV® (levoleucovorin) for Injection in the U.S.; FOLOTYN® (pralatrexate injection), also marketed in the U.S.; ZEVALIN® (ibritumomab tiuxetan) Injection for intravenous use, for which the Company has worldwide marketing rights; MARQIBO® (vinCRIStine sulfate LIPOSOME injection) for intravenous infusion, for which the Company has worldwide marketing rights and BELEODAQ® (belinostat) for Injection in the U.S. Spectrum's strong track record in in-licensing and acquiring differentiated drugs, and expertise in clinical development have generated a robust, diversified, and growing pipeline of product candidates in advanced-stage Phase 2 and Phase 3 studies. More information on Spectrum is available at www.sppirx.com.

About Captisol-Enabled Melphalan

Captisol-Enabled, Propylene Glycol -free Melphalan is a novel intravenous formulation of melphalan being investigated for the multiple myeloma transplant setting, for which it has been granted an Orphan Drug Designation by the FDA. This formulation eliminates the need to use propylene glycol containing custom diluent, which has been reported to cause renal and cardiac side effects, which in turn limit the ability to deliver higher doses of therapeutic compounds. The use of the Captisol® technology to reformulate melphalan also improves its stability and is anticipated to allow for slower infusion rates and longer administration durations, potentially enabling clinicians to safely achieve a higher dose intensity for pre-transplant chemotherapy.

About Captisol®

Captisol is a patent-protected, chemically modified cyclodextrin with a structure designed to optimize the solubility and stability of drugs. Captisol was invented and initially developed by scientists in the laboratories of Dr. Valentino Stella at the University of Kansas' Higuchi Biosciences Center for specific use in drug development and formulation. This unique technology has enabled six FDA-approved products, including Onyx Pharmaceuticals' Kyprolis®, Baxter International's Nexterone® and Merck's NOXAFIL IV. There are also more than 30 Captisol-enabled products currently in clinical development.

Forward-looking statement — This press release may contain forward-looking statements regarding future events and the future performance of Spectrum Pharmaceuticals that involve risks and uncertainties that could cause actual results to differ materially. These statements are based on management's current beliefs and expectations. These statements include, but are not limited to, statements that relate to our business and its future, including certain company milestones, Spectrum's ability to identify, acquire, develop and commercialize a broad and diverse pipeline of late-stage clinical and commercial products, leveraging the expertise of partners and employees around the world to assist us in the execution of our strategy, and any statements that relate to the intent, belief, plans or expectations of Spectrum or its management, or that are not a statement of historical fact. Risks that could cause actual results to differ include the possibility that our existing and new drug candidates may not prove safe or effective, the possibility that our existing and new applications to the FDA and other regulatory agencies may not receive approval in a timely manner or at all, the possibility that our existing and new drug candidates, if approved, may not be more effective, safer or more cost efficient than competing drugs, the possibility that our efforts to acquire or in-license and develop additional drug candidates may fail, our lack of sustained revenue history, our limited marketing experience, our dependence on third parties for clinical trials, manufacturing, distribution and quality control and other risks that are described in further detail in the Company's reports filed with the Securities and Exchange Commission. We do not plan to update any such forward-looking statements and expressly disclaim any duty to update the information contained in this press release except as required by law.

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