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Spectrum Pharmaceuticals Highlights Promising Preclinical Data Evaluating Poziotinib in Lung Cancer at the 17th IASLC World Conference on Lung Cancer

- Pre-clinical results show poziotinib could potentially be effective in patients with non-small cell lung cancer with EGFR exon 20 mutations.
- Computational modeling suggests that due to its small size, poziotinib may overcome the steric hindrance of the drug binding pocket.
- An investigator sponsored clinical trial testing poziotinib in EGFR exon 20 mutant non-small cell lung cancer patients is expected to begin enrollment soon to investigate this hypothesis.

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 announced the oral presentation of data from a preclinical study evaluating poziotinib in lung cancer by scientists from MD Anderson Cancer Center at the 17th International Association for the Study of Lung Cancer (IASLC) World Conference on Lung Cancer which took place in Vienna, Austria, December 4-7, 2016.

"We are honored to have an oral presentation on poziotinib presented at the 17th IASLC World Conference," said Rajesh C. Shrotriya, MD, Chairman and Chief Executive Officer of Spectrum Pharmaceuticals. "These results show that poziotinib may work in a subset of non-small cell lung cancer patients that have exon-20 mutations. Tumors with exon-20 mutations have generally not been responsive to several other EGFR inhibitors. However, due to its smaller size poziotinib is hypothesized to inhibit cell growth of EGFR exon 20 insertions. These early results are very encouraging and have the potential to be a transforming therapy for patients who have little or no options and poor prognosis with median progression free survival of 1.5 months. We are working closely with the team at MD Anderson Cancer Center in expediting this research and evaluating ways of serving the unmet medical need in this area."

Abstract/Oral Presentation #6203: Drug Repurposing to Overcome De Novo Resistance of Non-Traditional EGFR Mutations: Poziotinib inhibits EGFR exon 20 insertion mutations in NSCLC

EGFR exon 20 insertions induce a shift in the structure of cancer cells that prevents binding of many EGFR inhibitors. *In vitro*, Ba/F3 cells with EGFR exon 20 insertions were screened against several EGFR inhibitors including erlotinib, gefitinib, afatinib, dacomitinib, neratinib, poziotinib, ibrutinib rocilentinib, EGF816, and osimertinib. In Ba/F3 cells with EGFR exon 20 insertions, most of the TKIs failed to inhibit growth of EGFR exon 20 insertions with IC50 values above 100nM. However, poziotinib significantly inhibited cell growth of all EGFR exon 20 insertions tested with an average IC50 value of 2.9nM, as compared to osimertinib and rocilentinib (IC50 values =103nM and 850nM, respectively). *In vivo,* poziotinib reduced ≥80% of tumor burden in multiple mouse models. Computational modeling suggests that its smaller structure gives poziotinib the potential to overcome the steric hindrance of the drug binding pocket. An investigator sponsored clinical trial testing poziotinib in EGFR exon 20 mutant NSCLC patients is expected to begin enrollment soon.

About Poziotinib

Poziotinib is a novel, oral pan-HER inhibitor that irreversibly blocks signaling through the Epidermal Growth Factor Receptor (EGFR, HER) Family of tyrosine-kinase receptors, including HER1 (erbB1; EGFR), HER2 (erbB2), and HER4 (erbB4), and importantly, also HER receptor mutations; this, in turn, leads to the inhibition of the proliferation of tumor cells that overexpress these receptors. Mutations or overexpression/amplification of EGFR family receptors have been associated with a number of different cancers, including non-small cell lung cancer (NSCLC), breast cancer, and gastric cancer. Currently, Poziotinib is being investigated by Hanmi in several mid-stage trials in different solid tumor indications including HER2-positive breast cancer. (Phase 2 sponsored by National OncoVenture, a funding initiative by the Korean government's National Cancer Center).

About Spectrum Pharmaceuticals, Inc.

Spectrum Pharmaceuticals is a leading biotechnology company focused on acquiring, developing, and commercializing drug products, with a primary focus in Hematology and Oncology. Spectrum currently markets six hematology/oncology drugs,

and has an advanced stage pipeline that has the potential to transform the Company. Spectrum's strong track record for 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.

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 Spectrum's 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, the timing and results of FDA decisions, 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 Spectrum's 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 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. The Company does not plan to update any such forward-looking statements and expressly disclaims any duty to update the information contained in this press release except as required by law.

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