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Enzon Presents Final Analysis of Phase II PEG-SN38 (EZN-2208) Study in Patients With Metastatic Breast Cancer at 2012 ASCO Meeting

PISCATAWAY, NJ -- (MARKETWIRE) -- 06/04/12 -- Enzon Pharmaceuticals, Inc. (NASDAQ: ENZN) today presented data from the final analysis of a Phase II study in which PEG-SN38 demonstrated notable activity in patients with previously treated metastatic breast cancer. The data were presented in a poster session (Poster #1017) at the American Society of Clinical Oncology Meeting in Chicago, IL.

"Despite existing therapies, new and effective treatment options for patients with previously treated metastatic breast cancer are needed," said Joyce A. O'Shaughnessy, MD, a breast cancer specialist at Texas Oncology, Baylor Sammons Cancer Center, and US Oncology, and the principal investigator of the study. "In this study, PEG-SN38 resulted in a significant overall response rate in previously treated patients, as well as in triple negative breast cancer and platinum-resistant patients. These findings provide further clinical evidence indicating the potential of PEG-SN38 to deliver meaningful therapeutic benefit in patients with breast cancer."

The study was designed to evaluate the efficacy of single-agent PEG-SN38 in 164 female patients who had previously been treated for metastatic breast cancer with either anthracycline and taxane (AT, up to 2 prior lines of therapy) (n=81), or anthracycline, taxane and capecitabine (ATX, up to 4 prior lines of therapy) (n=83). The primary objective of the study was to determine overall response; secondary objectives included duration of response, progression-free survival (PFS), overall survival (OS) and safety.

Overall response was found to be meaningful in both the AT group (25%) and the ATX group (11%). For the AT and ATX cohorts, the response rate and clinical benefit rate among estrogen response positive patients were 15% and 39% (n= 92), respectively. In patients who progressed during or within 30 days of prior platinum-containing regimens, the clinical benefit rate was 18% (n=40). Among triple negative breast cancer patients, the response rate and clinical benefit rate were 23% (n=47) and 32% (n=47), respectively. For triple negative breast cancer patients with prior platinum-containing regimens, the clinical benefit rate was 18% (n=22). PEG-SN38 was generally well tolerated in these heavily pretreated patients, with neutropenia, diarrhea and leukopenia being the most common adverse events. Investigators concluded that PEG-SN38 warrants further clinical study in metastatic breast cancer.

Enzon does not intend to pursue development of PEG-SN38 in this indication or in other malignancies on its own, absent a partner. Zhejiang Hisun Pharmaceuticals Co. Ltd recently acquired exclusive development and commercialization rights to PEG-SN38 in China. Enzon is seeking strategic partners for PEG-SN38 in other territories.

About PEG-SN38 (EZN-2208)

Through the use of our PEGylation technology, Enzon designed PEG-SN38 (EZN-2208), a PEGylated conjugate of SN38, to offer therapeutic advantages over unmodified SN38 and existing therapies. The PEGylated version allows parenteral delivery, increased solubility, higher exposure, more profound deoxyribonucleic acid (DNA) damage, inhibition of angiogenesis, and longer apparent half-life of SN38 as compared to irinotecan.

About Enzon

Enzon Pharmaceuticals, Inc. is a biotechnology company dedicated to the research and development of innovative therapeutics for patients with high unmet medical need. Enzon's drug-development programs utilize two platforms: Customized PEGylation Linker Technology (Customized Linker Technology®) and third-generation mRNA-targeting agents utilizing the Locked Nucleic Acid (LNA) technology. Enzon currently has four compounds in human clinical development and multiple novel mRNA antagonists in preclinical research. Enzon receives royalty revenues from licensing arrangements with other companies related to sales of products developed using its proprietary Customized Linker Technology. Further information about Enzon and this press release can be found on the Company's website at www.enzon.com.

Forward-Looking Statements

This press release contains, or may contain, forward-looking statements within the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release, other than statements that are purely historical, are forward-looking statements, which can be identified by the use of forward-looking terminology such as the words "believes," "expects," "may," "will," "should," "potential," "anticipates," "plans," or "intends" and similar expressions. Forward-

looking statements in this press release include, but are not limited to, statements regarding the potential of PEG-SN38.

Such forward-looking statements are based upon management's present expectations, objectives, anticipation, plans, hopes, beliefs, intentions or strategies regarding the future and are subject to known and unknown risks and uncertainties that could cause actual results, events or developments to be materially different from those indicated in such forward-looking statements, including but not limited to Enzon's reliance on third parties in conducting clinical trials for our product candidates. A more detailed discussion of these and other factors that could affect results is contained in Enzon's filings with the U.S. Securities and Exchange Commission, including Enzon's Annual Report on Form 10-K for the year ended December 31, 2011. These factors should be considered carefully and readers are cautioned not to place undue reliance on such forward-looking statements. No assurance can be given that the future results covered by the forward-looking statements will be achieved. All information in this press release is as of the date of this press release and Enzon does not intend to update this information.

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