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Preclinical Data Presented at AACR 2018 Shows Esperance Pharmaceuticals' EP-100 Is Synergistic with PARP Inhibitor Olaparib in Ovarian Cancer

Studies Conducted by MD Anderson Cancer Center Elucidate the Mechanisms by Which EP-100 Kills Ovarian Cancer Cells on Its Own and Synergistically in Combination with a Leading PARP Inhibitor

Houston, TX and Chicago, IL, April 16, 2018 - Esperance Pharmaceuticals Inc., a clinical stage company developing novel targeted membrane-disrupting peptides to treat cancer, today announced presentation of data on its lead investigational drug EP-100 at the American Association for Cancer Research (AACR) Annual Meeting 2018. AACR 2018 is being held April 14-18, 2018, in Chicago, IL. EP-100 is a synthetic lytic peptide specific for targeting LHRH receptors on cancer cells. It is in clinical development for the treatment of ovarian and other cancers.

The presentation discusses the results of a series of preclinical *in vitro* and *in vivo* studies in ovarian cancer models conducted to further elucidate the biological effects of EP-100 and to assess its potential in combination with standard of care drugs for ovarian cancer.[1] They show that EP-100 was effective on its own and in combination regimens. The combination of EP-100 and the PARP inhibitor olaparib (Lynparza®) was highly synergistic in both drug sensitive and multi-drug resistant ovarian cancer models. The authors noted that EP-100 enhanced DNA damage accumulation, suppressed the PI3K/AKT pathway and inhibited BRCA1 in ovarian cancer cells—all potential mechanisms underlying its ability to further increase the superior cytotoxic efficacy of PARP inhibitors.

The study team was led by Principal Investigator Anil Sood, MD, Professor and Vice Chair for Translational Research in the Departments of Gynecologic Oncology and Cancer Biology at The University of Texas MD Anderson Cancer Center. He is also Director of the Blanton-Davis Ovarian Cancer Research Program and co-leads the Ovarian Cancer Moon Shot Program.

"The results of these studies are very encouraging, showing that EP-100 acts in a number of ways to kill cancer cells on its own and even more powerfully in combination with other anti-cancer agents. PARP inhibitors are targeted therapies that have demonstrated encouraging efficacy and good tolerability in ovarian cancer. Combining EP-100 with a PARP inhibitor such as olaparib may be a promising new therapeutic strategy for ovarian cancer patients." commented Carola Leuschner, PhD, Vice President of Research, Esperance Pharmaceuticals.

PARP inhibitors are the most commonly used targeted therapy for recurrent ovarian cancer. As a result of genetic mutations such *as BRCA1/2*, many ovarian cancer patients have limitations in their ability to repair routine breaks in single strands of DNA. By further interfering with the repair process, PARP inhibitors transform single stranded into double-stranded breaks, which are highly lethal to the tumor cells, but much less so to normal cells. The studies presented today show that EP-100 broadly enhanced the cytotoxicity of the PARP inhibitor, even in ovarian cancer cell lines that are multi-drug resistant.

"We knew that EP-100 had the potential to act synergistically with other anti-cancer therapies, but we are especially pleased that it appears to be so effective with the PARP inhibitors that have rapidly become a mainstay of ovarian cancer treatment." noted Hector Alila, PhD, CEO, Esperance Pharmaceuticals. "These informative studies conducted by our collaborators at MD Anderson set the stage for advancing EP-100 into Phase IIb ovarian cancer trials in combination with a PARP inhibitor, expected to commence later this year."

EP-100 is the first in a novel class of targeted anticancer therapeutics. It is a membrane-disrupting peptide designed to seek and destroy cancer cells that overexpress luteinizing hormone releasing hormone (LHRH) receptors on their surfaces. LHRH receptors are overexpressed in a wide range of cancers including ovarian, breast, prostate, pancreatic and endometrial cancer. In a Phase II clinical trial in ovarian cancer patients who had developed resistance to paclitaxel (Taxol®). EP-100 re-sensitized the cancer to the anti-tumor effects of paclitaxel, which is a front-line agent for the treatment of ovarian cancer. Based on these promising results, Esperance entered a strategic alliance with MD Anderson Cancer Center to accelerate clinical development of EP-100 in ovarian cancer and breast cancer.

The company's patented technology was discovered by scientists at the Pennington Biomedical Research Center (PBRC) and Louisiana State University. EP-100 was developed as part of a sponsored research agreement funded by Esperance under the leadership of Dr. Hector Alila and Pennington's Dr. Carola Leuschner, who is now Vice President of Research and Development at Esperance.

1 - **PO.ET01.03 - Combination Chemotherapy 1, April 17, 1:00-5:00pm, 4817 / 16 -** EP-100 sensitizes BRCA wild-type ovarian cancer cells to PARP inhibitor, S. Ma, S Pradeep, S Wu, M Kim, W Hu, S. Mangala, RL Coleman, AK Sood

About Esperance Pharmaceuticals
Esperance Pharmaceuticals, Inc. is a clinical stage company developing a new class of targeted anticancer drugs using its Cationic Lytic Peptide (CLYP™) platform technology. These drug candidates include targeted membrane-disrupting peptides and antibody drug conjugates that selectively seek and destroy cancer cells, including cells known to be resistant to chemotherapeutic drugs, without harming normal cells. Lead candidate EP-100 has successfully completed a Phase II trial in ovarian cancer patients resistant to paclitaxel and is in late preclinical development for breast cancer. Esperance has relocated to Houston, Texas and is conducting its R&D programs as part of a strategic alliance with The University of Texas MD Anderson Cancer Center. For more information, visit esperancepharma.com.