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**Third Candidate from Esperance's Targeted Anti-cancer Platform, EP-302,  
Establishes Preclinical Proof of Concept**

***--Data to be presented in a late-breaking poster session at AACR--***

Baton Rouge, LA (April 20, 2010) – Drug discovery and development company Esperance Pharmaceuticals today presented positive results from their preclinical EP-302 program that support the initiation of IND enabling studies. EP-302 is a targeted membrane-disrupting peptide designed to selectively kill cells that express nucleolin on their surface. Nucleolin is a protein that is over-expressed in a wide range of cancers and tumor endothelial cells. Results from *in vitro* and *in vivo* studies of EP-302 in 20 cancer cell lines and breast and prostate cancer xenograft models were presented in a late-breaking poster presentation entitled, "Nucleolin Targeting Oncolytic Peptide for Treatment of Cancers" at the American Association for Cancer Research (AACR) 101<sup>st</sup> Annual Meeting 2010 in Washington, DC. EP-302 is the third candidate from the Company's Cationic Lytic Peptide (CLYP™) platform technology.

"These data not only support the continued development of EP-302, but also validate our core CLYP™ platform technology," said Carola Leuschner, PhD, Senior Director of Biology for Esperance and lead author of the study.

"Importantly, results of this study demonstrate that targeting nucleolin on the surface of cancer and tumor endothelial cells is a novel mechanism for seeking and destroying cancer cells without harming normal cells. We believe our approach may lead to an improved safety profile for drugs emerging from this platform compared to existing cancer therapies such as radiation or chemotherapy."

“Based on the results observed in these most recent studies of EP-302, Esperance is planning to initiate IND-enabling studies in the next twelve months,” said Hector Alila, PhD, President and CEO of Esperance. “In addition, we continue to make significant progress on our ongoing Phase 1 study of EP-100 in patients with solid tumors and look forward to presenting results from this study in 2011.”

The CLYP™ technology platform has enabled the development of a robust portfolio of novel targeted membrane disrupting peptides and antibody drug conjugates to selectively bind and destroy cancer cells that over-express target molecules on their surfaces.

**Study results:**

EP-302 consists of a nucleolin binding domain conjugated to a novel membrane-disrupting peptide, CLIP 71. The drug candidate was tested *in vitro* in 20 human cancer cells lines and *in vivo* for activity in surface nucleolin over-expressing breast and prostate cancer xenografts. In *in vitro* studies designed to test the cytotoxicity of EP-302 in cancer cells lines across breast, endometrial, ovarian, pancreatic, prostate, colon, lung and hematological malignancies, cells were cultured in the presence of various concentrations of EP-302 or unconjugated CLIP 71 for fifteen minutes to 24 hours. As negative controls, the study utilized surface nucleolin negative HS27 human and 3T3 murine fibroblast cells. Results demonstrated that EP-302 was fast-acting, destroying cancer cells that express nucleolin on their surface within one hour. A nucleolin-binding peptide analog was not cytotoxic.

In 16 of the 20 human cancer cell lines, EP-302 had very low IC<sub>50</sub> values (0.5-6.4 micromolar), suggesting high potency. EP-302 was shown to specifically bind to surface nucleolin expressing cancer cells through western blot analysis. Co-incubation with nucleolin binding peptide F3 resulted in competitive inhibition of EP-302 cytotoxic activity, indicating that nucleolin binding is necessary to achieve cytotoxicity. Additionally, no hemolytic effects were observed in incubation with

human red blood cells and bioactivity in human plasma was retained at 60% after two hours, suggesting high stability in human plasma.

In *in vivo* studies, the efficacy of EP-302 in comparison to saline control in nude mice xenografts with breast (MDA-MB-435S) and prostate (PC-3) cancer cell lines was evaluated. EP-302 resulted in significant ( $p < 0.0035$ ) tumor regression in PC-3 xenografts at doses of 0.02, 0.2 and 1 mg/kg and increased survival of the mice. Tumor regression and increased survival was also observed for MDA-MB-435S xenografts ( $p < 0.0001$ ) at all doses tested. Histological evaluation of treated tumors showed that cell killing was primarily by necrosis. EP-302 was well tolerated in all treated groups. These results indicate that EP-302 selectively targets and kills only cancer cells that have surface nucleolin without harming healthy cells and suggest that EP-302 could be a promising potential therapy for cancers in humans.

### **About Esperance Pharmaceuticals**

Esperance Pharmaceuticals, Inc. is developing a new class of targeted anticancer drugs using its Cationic Lytic Peptide (CLYP™) platform technology. These drug candidates, called targeted membrane-disrupting peptides (tMDPs) and antibody drug conjugates (ADCs), selectively kill cancer cells, including cells known to be resistant to chemotherapeutic drugs, without harming normal cells. Targeting occurs through binding to specific receptors and antigens on the cell's surface. The Company was founded on patented technology discovered by scientists at Louisiana State University. Founding investors include the Louisiana Fund I, Themelios Venture Partners and Research Corporation Technologies. Additional investors include Louisiana Technology Fund and private investors.