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## **EP-100 is a Targeted Peptide for Treatment of Cancers that Over-express LHRH-Receptors**

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Ovarian cancer is the fifth leading cause of cancer deaths in women with estimated 21,550 new cases and 14,600 deaths in 2009. Current treatments are not effective. EP-100 is a targeted cancer drug currently in Phase 1 clinical trials; being developed by Esperance Pharmaceuticals to treat cancers that over-express luteinizing hormone-releasing hormone (LHRH) receptors. Ovarian cancer is the proposed first indication for EP-100 because 80% over-express LHRH receptors.

EP-100 was tested *in vitro* and *in vivo* using LHRH receptor-positive and multi-drug resistant OVCAR-3 ovarian cancer cells and LHRH receptor-negative SKOV-3 cells. EP-100 caused rapid killing of cells in a dose-dependent manner ( $IC_{50} = 4.9 \mu M$ ) within 1 hour. The non-targeted lytic peptide, CLIP71, was inactive ( $IC_{50} = 33 \mu M$ ). EP-100 was also inactive in SKOV-3 cells ( $IC_{50} = 86 \mu M$ ).

Nude mice bearing OVCAR-3 xenografts received weekly intravenous EP-100 for 3 weeks. Tumors were significantly ( $p < 0.001$ ) regressed at doses as low as 0.2mg/kg. Cisplatin and CLIP71 were inactive. Serum CA125 was significantly ( $p < 0.0002$ ) reduced in EP-100-treated mice compared to saline-treated controls. These results indicate that EP-100 selectively targets and kills only cancer cells that over-express LHRH receptors. They demonstrate that EP-100 is a potential treatment for ovarian cancer and other LHRH-receptor over-expressing cancers including breast, prostate, endometrial, pancreatic, colon, skin and testicular cancers indicating a large potential market for EP-100.