Novel Therapeutic for the Treatment of Epithelial Cancers
ID# 2016-4463

Technology Summary
Penn State inventors have discovered and are working to complete pre-clinical research for a novel lectin-like peptide, named Lectin-1. This biologic exhibits potent anti-cancer activity against epithelial cancers. Lectin-1 has been demonstrated to reduce cell viability in range of epithelial tissue cell lines, including lung, colon, bladder, cervical, and ovarian cancer cell lines, with a million-fold reduction of breast cancer cell. Lectin-1 has also been demonstrated to have an IC50 value in or below the picomolar range. The inventors have found no observable effect on non-epithelial or healthy tissues, including blood and lymphocyte cell lines, suggesting Lectin-1 has high specificity. A robust method for Lectin-1 production and purification, via expression in E.Coli, has also been developed.

Application & Market Utility
Epithelial cancers are among the most commonly diagnosed forms of cancer in the U.S. and the market for these indications is expected to grow over the next 10 years. As demonstrated in initial studies, Lectin-1 has the potential to enter as a targeted oncology drug for epithelial cancers. In addition, current chemotherapy drugs for epithelial cancers have IC50 values in the nanomolar range. Lectin-1 reduced IC50 values against epithelial cancers suggests it has the potential to be competitive with current state of the art.

Next Steps
Seeking research collaboration and licensing opportunities.