PURDUE INNOVATES | Office of Technology Commercialization

A Method for the Expression and Purification of USP17

A novel methodology has been developed for the expression and purification of recombinant USP17, enabling critical kinetic, structural, and biochemical studies necessary for advancing anticancer therapeutics.

USP17, a ubiquitin specific enzyme, is responsible for the progression of the cell cycle to promote cellular proliferation. In many cancers, including breast and prostate, USP17 levels are upregulated, promoting unregulated proliferation and cancer. Over the last 10 years, cell-based studies have identified USP17 as a potential target for cancer therapy; however, there has been no advancement in the production of recombinant USP17. Availability of large amounts of purified, recombinant USP17 is critical for developing an anticancer therapeutic against this target.

Researchers from Purdue University have developed a methodology for the expression and purification of recombinant USP17, which allows for the utilization of a much wider array of techniques compared to cell based assays. Recombinant USP17 can be used for kinetic, structural, biochemical studies, and other studies of the enzyme and its response to drug candidates. The Purdue researchers' protocol and the resulting recombinant protein provide others with the tools to develop therapeutics against cancers in which USP17 regulation is a major component. This method will help advance the development of anticancer therapeutics that target USP17.

Advantages:

-Recombinant protein now available

-Facilitates drug discovery

Potential Applications:

-Drug Discovery

-Pharmaceutical industry

-Biomedical industry

Technology ID

2016-MESE-67455

Category

Biotechnology & Life Sciences/Bioprocessing & Biomanufacturing

Pharmaceuticals/Research Tools & Assays

Authors

Nicole M Hjortland

Andrew D Mesecar

Further information

Joe Kasper

JRKasper@prf.org

Nathan Smith

nesmith@prf.org

View online

-Biomedical and Pharmaceutical R&D

-Medical diagnosis

TRL: 7

Intellectual Property:

Provisional-Patent, 2016-04-06, United States

Keywords: USP17, ubiquitin specific enzyme, cell cycle progression, cellular proliferation, cancer therapy target, recombinant protein, protein expression, protein purification, drug discovery, anticancer therapeutics