UNIVERSITY OF MINNESOTA
Driven to Discover℠

PDAC Treatment with High Antiproliferative Activity Against MiaPaca-2

IP Status: Issued US Patent**; Issued Patent No.** 10,357,477

Pancreatic Ductal Adenocarcinoma Treatment

Pancreatic ductal adenocarcinoma (PDAC) may be treatable using newly-developed small molecules that show high antiproliferative activity against the pancreatic cancer cell line MiaPaca-2. This technology disrupts the mTOR and autophagy pathways, offering a new mechanism of action for treating pancreatic cancer. The molecules of interest have submicromolar activity, good metabolic stability in both plasma and liver microsomes, and have increased autophagy at the basal levels and reduced mTORC1 activity.

Disrupts mTOR and Autophagy Pathway

PDAC, one of the most lethal forms of cancer in the US, is commonly diagnosed in late stages and often resistant to “normal” cancer cell-killing methods such as apoptotic cell death, an established cancer cell-killing mechanism. Currently available treatments offer poor results with a five year survival rate of only around 5%. The newly-designed chemical structures in this technology show high antiproliferative activity in a pancreatic cancer cell line and propose a new method that disrupts mTOR and autophagy pathways. The treatment has shown high anticancer activity and good drug-like properties.

BENEFITS AND FEATURES:

- High antiproliferative activity against MiaPaca-2 pancreatic cancer cell line
- New mechanism of action disrupts mTOR and autophagy pathways
- Submicromolar activity
- Good metabolic stability in both plasma and liver microsomes
- Increased autophagy at the basal levels and reduced mTORC1 activity

APPLICATIONS:

- Pancreatic cancer treatment
- Modulating autophagy

Phase of Development - Lead optimization

Researchers

Liqiang Chen, PhD
Assistant Professor, Center for Drug Design (CODD)
External Link (drugdesign.umn.edu)

Technology ID

20160388

Category

Life Sciences/Human Health
Life Sciences/Pharmaceuticals
Agriculture & Veterinary/Veterinary Medicine

Learn more

Interested in Licensing?

The University relies on industry partners to scale up technologies to large enough production capacity for commercial purposes. The license is available for this technology and would be for the sale, manufacture or use of products claimed by the issued patents. Please contact us to share your business needs and technical interest in this PDAC treatment technology and if you are interested in licensing the technology for further research and development.

IP Status: Issued US Patent; Issued Patent No. 10,357,477