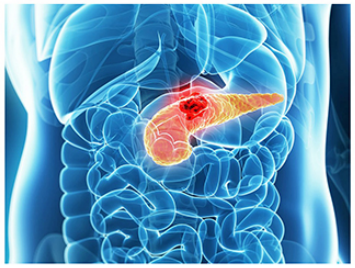
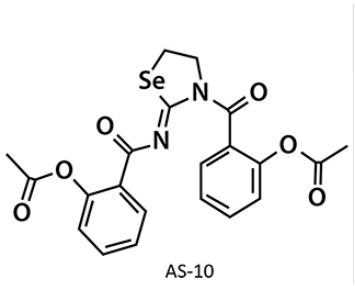
NSAID-Derived Selenazoles/Thiazoles as Potential Cancer Therapeutics

ID# 2014-4259





AS-10

Novel Compound for Pancreatic Cancer

Technology Summary

A cyclic Se-Aspirin compound, AS-10, was identified through extensive SAR studies focused on Se-NSAID hybrid compounds based on potency determination, toxicity, and drug-likeness. AS-10 is selectively toxic to cancer cells in vitro, demonstrating high efficacy across different PDAC cell lines at 48h, with IC50 ranging from 0.7-2.5 µM compared to Gemcitabine (Gem), which has an IC50 >500 µM. AS-10 inhibits tumor growth without apparent systemic toxicity by inducing apoptosis in various cancer cells, especially PDAC. Experimental evidence shows a synergistic effect with Gem observed both in cell culture and xenograft mouse models in both male and female mice.

Application & Market Utility

Pancreatic cancer is one of the deadliest cancers, with a median survival of less than one year and a five year survival rate of less than 10%. Most patients do not have symptoms in earlier stages – 80% of pancreatic cancers are metastatic at the time of diagnosis. Given this dire prognosis, AS-10 may address a significant unmet need, aiming to improve outcomes for advanced pancreatic cancer patients through the use of a novel, small molecule therapeutic compound as a monotherapy or in combination with the current standard of care.

Next Steps

Patent 10,287,259 issued 5/14/2019. Continue preclinical activities, including formulation/dosing regimen to be used in vivo, PK/PD, tox and efficacy determination. Seeking licensing opportunities.

TECHNOLOGY READINESS LEVEL 4-7

Seeking

Investment | Licensing | Research

Keywords

- anti-cancer agent
- pancreatic cancer
- aspirin
- NSAID
- AS-10

Researchers

Arun K. Sharma
Associate Professor
Online Bio

Shantu Amin
Professor
Website

Daniel Plano
Post-Doctoral Fellow

Other Researchers
Deepkamal Karelia

Originating College
College of Medicine

Office of Technology Management Contact
Martinez, Alison