

A Novel Small Molecule for the Treatment of Pancreatic Cancer

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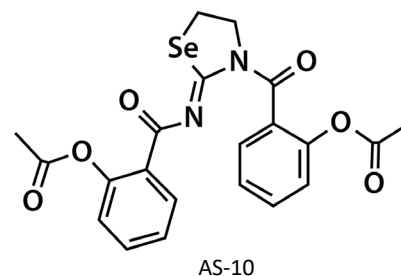
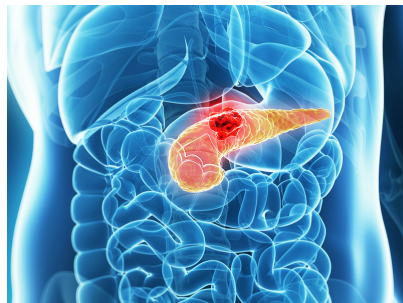
Intellectual Property:

U.S. Patent 10,287,259

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Clinical Need:

Pancreatic cancer (mostly as Pancreatic Ductal Adenocarcinoma, PDAC) is one of the deadliest cancers, with median survival of less than one year and a 5-year survival of only about 10%. Most patients don't have symptoms in earlier stages – 80% of pancreatic cancers are metastatic at the time of diagnosis. Currently, there is no way to screen for pancreatic cancer

Value Proposition:

To improve outcomes for advanced pancreatic cancer patients through use of a novel, small molecule therapeutic compound, AS-10, as a monotherapy or in combination with current standard of care.

Technology Solution:

Developed by researchers at Penn State's College of Medicine, rationally designed 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*) (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.

Market Opportunity:

By 2030, pancreatic cancer will become the second leading cause of cancer deaths in the U.S. Drug sales for treatment of PDAC are over \$2B worldwide, with the U.S. representing 60% of the market. Current standard of care employs a combination of chemotherapy agents, including a gemcitabine and nab-paclitaxel regimen. Presently, there are over 170 active PDAC clinical trials, many of which are investigating new drugs as monotherapies or used in combination with existing chemotherapeutics.

Path Forward:

Identify AS-10 mechanism of action; continue preclinical activities, including formulation/dosing regimen to be used *in vivo*, route of administration, PK/PD, tox and efficacy determination.



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