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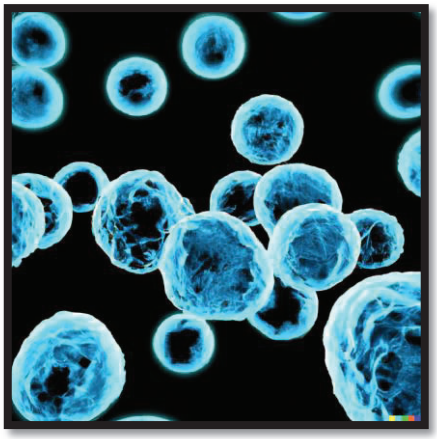
Chemotherapeutic Cancer Treatment with KP372



Challenge

The mortality rate of pancreatic cancer is one of the highest among all major cancers. Currently, for all diagnostic stages, the overall 5-year survival of pancreatic cancer patients is less than 10%, which remains largely unchanged in the last four decades. Conventional therapies for pancreatic cancer are subject to innate resistance and lack pancreatic cancer-specific targeting, thus chemotherapeutic agents selectively targeting pancreatic cancer are critically needed.

Solution

Elevated expression of NAD(P)H:quinone oxidoreductase 1 (NQO1) is frequent in pancreatic cancer, and NQO1-bioactivatable compounds, including KP372-1 - emerged as an effective chemotherapeutic agent. The invention provides a means of treating cancer with KP372-1 in combination with inhibitors of central DNA damage sensor enzyme, poly(ADP-ribose) polymerase 1 (PARP1). The chemotherapeutic potential of KP372-1 is based on its capacity to undergo NQO1-dependent redox cycling to create cellular redox imbalance and consequently cause massive DNA damage in cancer cells.

Benefits and Features

- This chemotherapeutic treatment can be used to treat solid cancer tumors that include: Pancreatic Cancer, Pancreatic Ductal Adenocarcinoma, Breast Cancer, Colon Cancer, Liver Cancer, and Lung Cancer.

- This treatment can be administered along with a polymerase inhibitor.

Market Potential / Applications

This invention has applications in health care and drug development.

Developments and Licensing Status

Status: Available

Commercial sponsor sought? Yes

Patent Status

US Patent Pending

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