Novel Solid Tumor Chemodrug LLS2

Tech ID: 27246 / UC Case 2015-832-0

ABSTRACT

Researchers at the University of California, Davis have developed a new library of small molecule LLS2 that can kill a variety of cancer cells.

FULL DESCRIPTION

Surgical treatment for solid malignancies are the gold standard for operable tumors. Advanced solid tumor cancers that cannot just be resected require sophisticated multimodality regimens. Current advanced solid tumor cancer treatments include the use of radiation treatment and chemotherapy. Radiation treatment plays an important role in the treatment of patients but is criticized for its failure to consider the biology of the disease. Chemotherapeutic agents are becoming increasingly important as possible treatments for cancer but are susceptible to cancer resistance and compensatory cancer pathways. Therefore, there is a need for new compounds that can specifically target tumors based on their biology while being able to work concurrently with existing cancer therapies.

Researchers at the University of California, Davis have developed a new library of small molecule compound LLS2 that can kill a variety of cancer cells. The molecule specifically targets Galectin-1, a protein involved in proliferation, apoptosis, cell cycle, and angiogenesis. High expression of galectin-1 has been directly implicated in the process of tumorigenesis and identified in many human cancers including: ovarian, prostate, lung, breast, kidney, and pancreatic. The small molecule LLS2 can be used in combination with available chemotherapy drugs, be delivered orally, synthesized cost-effectively in a relatively short period of time and easily screened for specificity and capacity of binding with a target. LLS2 provides a new cancer-specific therapeutic that can be used in combinatorial therapies for a range of cancers.

APPLICATIONS

- Combinatorial cancer therapies

FEATURES/BENEFITS

- Cancer Specific
- Concurrent treatment
- Quickly synthesized
- Easily screened
- Orally bioavailable
- Cost-effective manufacturing

PATENT STATUS

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CATEGORIZED AS

- Biotechnology
- Medical
- Diagnostics
- Disease: Cancer
- New Chemical
- Entities, Drug Leads
- Other
- Research Tools
- Therapeutics
- Research Tools
- Cell Lines
- Other
- Screening Assays

RELATED CASES

2015-832-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Affinity Peptides for Diagnosis and Treatment of Severe Acute Respiratory Syndrome Coronavirus 2 and Zika Virus Infections
- Nanoparticles for Drug Delivery, Tissue Targeting and Imaging Analysis
- Conjugates That Combine HDAC Inhibitors and Retinoids into Disease Preventatives/Treatments