Novel Solid Tumor Chemodrug LLS2

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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

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,844,052	11/24/2020	2015-832

INVENTORS

- Lam, Kit S.
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- Shih, Tsung-Chieh

OTHER INFORMATION

KEYWORDS

Galectin-1, cancer, LLS2,

cancer therapy, solid tumor

CATEGORIZED AS

- **Biotechnology**
  - Other
- **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
- A Novel RGD-Containing Cyclic Peptide for use in Cancer Imaging and as a Targeted-Therapy Ligand
- Site-Specific Ligation and Compound Conjugation to Existing Antibodies

- Functional Illumination in Living Cells
- Multifunctional Porphyrin-Based Nanomedicine Platform
- A Two-step Drug Delivery System Based on Click Chemistry
- Transformable Smart Peptides as Cancer Therapeutics
- Engineered Biomaterial to Prevent Endothelial Inflammation
- Programmable Peptide Nucleic Acid-Based Nanoplatform for Customizable Drug Delivery
- Systems and Methods of Single-Cell Segmentation and Spatial Multiomics Analyses
- Proteoglycan Mimetics For Enhanced Wound Healing Angiogenesis And Vascular Repair
- Nanoplatform for Cancer Therapy
- Ligands for Improved Angiogenesis and Endothelialization of Blood Contacting Devices

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