NOVEL SMALL MOLECULE COMPOUNDS FOR TARGETED CANCER THERAPEUTICS

Tech ID: 24117 / UC Case 2013-131-0

INVENTION NOVELTY

A novel class of small molecules with a unique mechanism of action has been developed to inhibit MYC, a promising cancer target that has been proven undruggable, until now.

VALUE PROPOSITION

Over 1,500,000 new cancer cases and over 500,000 deaths due to cancer were projected to occur in 2012 in the US. There has been little progress in the development of curative treatments for patients with metastatic solid cancers, resulting in over 560,000 deaths in the US in 2010. Notably, the cost of cancer therapy is projected to reach $158 billion by 2020. The most successful cancer therapeutics, such as trastuzumab (Herceptin) and bevacizumab (Avastin), can prolong survival by months when combined with chemotherapy. Unfortunately, radiation and chemotherapy treatment can result in poor outcomes. For instance, patients can relapse especially when many diagnosed patients do not respond to these therapeutic regimens at all.

This novel invention provides the following advantages:

- **Unique class** of small molecules
- **Lower doses** required for achievable results
- **Novel mechanism of action** to treat cancer
- **Broad** cancer therapeutic

TECHNOLOGY DESCRIPTION

Scientists at the University of California San Francisco (UCSF) have developed a novel class of small molecules that behave as kinase inhibitors to inhibit the MYC family of transcription factor proteins. Preclinical results suggest that these compounds potently degrade MYC and MYCN protein and drive cytotoxicity across MYC/MYCN-expressing cancer cell lines.

Moreover, this invention describes a novel mechanism of action to treat such cancers, resulting in a novel approach to further develop additional cancer therapeutics.

LOOKING FOR PARTNERS

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OTHER INFORMATION

KEYWORDS

cancer, oncology, therapeutics, kinase, myc, aurora kinase

CATEGORIZED AS

- **Biotechnology**
  - Health
- **Medical**
  - Disease: Cancer
  - Therapeutics

RELATED CASES

2013-131-0

To develop and commercialize this technology as an effective cancer therapeutic in solid metastatic cancers such as neuroblastoma, breast cancer, and colon cancer.

STAGE OF DEVELOPMENT

Preclinical

DATA AVAILABILITY

Under CDA

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	12,551,482	02/17/2026	2013-131
United States Of America	Issued Patent	11,135,222	10/05/2021	2013-131

RELATED MATERIALS

- William Clay Gustafson et al., Cancer Cell , Volume 26 , Issue 3 , 414 - 27

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