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Inhibitors of Bromodomain and Extra-Terminal (BET) Family Proteins as Potential Treatments for Drug-Resistant Tumors

Tech ID: 32333 / UC Case 2021-639-0

ABSTRACT

Researchers at the University of California, Davis have developed small molecule inhibitors for use in treating drug-resistant tumors – including cancerous tumors.

FULL DESCRIPTION

The bromodomain and extra-terminal (BET) protein family has an established role in cell cycle regulation and epigenetic sensing. The interactions between BET and other cellular proteins can lead to inflammation, obesity, DNA damage, cancerous tumor growth, and other serious clinical conditions and are a therapeutic target for small molecule inhibitors. Existing treatments are often either ineffective or “over-selective” – thus impeding other critical cellular processes. Given the current state, there is an unmet need to both improve bromodomain-based inhibitors and develop alternate therapies.

Researchers at the University of California, Davis have identified several small molecules that effectively inhibit BET protein expression through computer modeling and drug screening. Follow-on pre-clinical experiments have shown effectiveness in reducing the growth of drug-resistant tumors and in a synergistic fashion when combined with existing therapies, and therefore may prove valuable either alone or in conjunction with other treatment options.

APPLICATIONS

- ▶ Use alone or with existing cancer treatments to reduce drug-resistant tumor growth
- ▶ Potential use in treatment for other conditions induced by BET protein interactions

FEATURES/BENEFITS

- ▶ Novel therapy for advanced cancer
- ▶ Reduced side effects by only inhibiting necessary interactions
- ▶ Improved treatment outcomes

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20240189304	06/13/2024	2021-639

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

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OTHER INFORMATION

KEYWORDS

Bromodomain, Cancer
Treatments, Multiple
Sclerosis, Oncology,
Prostate Cancer, Small
Molecule Inhibitors, BET
Protein Family, Drug-
Resistant Tumors

CATEGORIZED AS

- ▶ **Medical**
 - ▶ Disease: Autoimmune and Inflammation
 - ▶ Disease: Cancer
 - ▶ Disease: Central Nervous System
 - ▶ Therapeutics

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