UMASS BOSTON

Invention Available for Licensing *Life Sciences*

Title: ***Heterocyclic Compounds and Uses Thereof***

UMB16-09

Inventors: ***Wei Zhang***

Applications:

- Treatment of cancer
- Treatment of neurodegenerative diseases

Benefits:

- Compounds with high selectivity for CREB target
- Compounds avoid side effects that may be seen with other CREB inhibitors

Technology Description:

Cyclic AMP response element binding (CREB) binding proteins co-activate select transcription factors by acetylating select lysine residues in target proteins and by acting as scaffolds to stabilize molecular complexes. Of the transcription factors activated by CREBs, some have prominent biological roles – e.g. in cellular homeostasis (e.g. CREB), homologous recombination double-stranded DNA repair (e.g. BRCA1), cell cycle progression (e.g. c-Jun), and activation of pro-apoptotic genes (e.g. p53). There has been significant interest in the development of compounds that selectively bind and inhibit CREB activity with minimal off-target effects. To date, although the synthesis and biological activity of several CREB inhibitors has been reported, these compounds are generally not sufficiently selective for CREB and may cause unwanted, off-target effects when used as drugs.

This invention comprises compounds with high selectivity for CREB, as shown using *in vitro* binding assays. These compounds can be potent agents against disorders characterized by cells with upregulated CREB activity, e.g., cancers and neurodegenerative diseases.

Patent and Publication Status:

This invention is the subject of a pending PCT patent application filed by UMass Boston.

Licensing Status:

UMass Boston is seeking an exclusive licensee for the development of this invention.

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