A compound has been developed with inhibitory effects comparable to state of the art cell cycle suppressing agents. Cyclin-dependent kinases (CDKs) are the protein kinases that regulate the cell cycle, and over-activation of these can lead to many disorders. Alzheimer’s disease is one such disorder, and the amyloid beta-induced toxicity that results in cell cycle re-entry in Alzheimer’s disease neurons is ameliorated significantly in the presence of this inhibitor. The effect is comparable to that of Roscovitine and Flavopiridol, CDK inhibitors currently undergoing trials as Alzheimer’s disease therapeutics. This compound is expected to be less toxic than both of the candidates mentioned above. It is a potential alternative to existing drugs for treating not only neurological disorders like Alzheimer’s but also cancer and related pathologies.

Benefits of Technology

- Convenient synthesis
- Economic synthesis
- Less toxic as compared to similar drug candidates
- Wide variety of neurodegenerative diseases that could potentially be treated

Potential Commercial Applications

The concept of abnormal neuronal cell cycle re-entry is gaining attention in recent years as a major factor for Alzheimer’s disease. Many CDK inhibitors are under development, and this compound could be commercially competitive as a pharmaceutical therapeutic. In 2009, the market for Alzheimer’s drugs was $4.3 billion, and is expected to increase to $13.3 billion by 2019 according to industry statistics.

IP Status

Provisional patent 61/392,237 pending

Development Status

This technology is at lab bench stage.