Drug Discovery Screening for Cyclophilin D Antagonists in Alzheimer's Disease

Technology #2121

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Alzheimer’s Disease Prevention Require New Molecular Targets for Effective Treatment Alzheimer’s disease is the leading cause of neurodegenerative dementia, affecting over 35 million persons worldwide. The costs of care for this disease are enormous with direct healthcare costs estimated at $25 billion as well as indirect caregiver costs at $36.5 billion due to lost productivity. Unfortunately, few therapeutic options are available for treatment and prevention of this debilitating disease. New molecular targets for prevention and reversal of the dementia caused by Alzheimer’s are needed for effective treatment.

Compounds Activating the Cyclophilin D Pathway Identified for Treatment of Alzheimer’s Disease This technology demonstrates a novel drug screening assay in which compounds that activate the cyclophilin D pathway can be identified for the treatment of Alzheimer’s disease. The authors of this technology have demonstrated that blockade of the cyclophilin D protein protects against impaired memory and learning in animal models of Alzheimer’s disease. Small molecules and/or biologic antibodies inhibiting cyclophilin D thus can be used for therapeutic treatment and prevention of Alzheimer’s disease progression. The technology details methods for detection of compound affinity to the cyclophilin D complex as well as functional assays to determine the physiologic inhibition of cyclophilin cellular activity.

Applications:
- Drug discovery for Alzheimer’s disease
  - Small molecule
  - Antibodies
  - Peptides
  - siRNA

Advantages:
- Novel molecular target
- Structural and functional screening assays
- Animal models available


Licensing Status: Available for Licensing and Sponsored Research Support

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