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Treating Neurodegenerative Diseases with Nicotine Receptor Ligands

IP Status: Issued US Patent; **Application #:** 09/997,718

Nicotine Receptor Ligands Show Neuroprotective Effects

Nicotine receptor ligands have the potential to provide a treatment option for neurodegenerative diseases like Alzheimer's and Parkinson's disease. The nicotine-like compounds in these agonists have shown neuroprotective effects that may help to slow the progression of these neurodegenerative diseases and have some memory enhancing effects. Preliminary testing in animals has shown indications of enhanced memory as well as alleviation of chronic pain. These nicotine receptor ligands have shown to be more efficacious than morphine in pain suppression and without the detrimental side effects often seen in chronic pain treatments.

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Nicotinic Agonists

A method to improve the efficacy of a new class of nicotine agonists that focus on regulating nicotine receptor function has been discovered. These nicotinic agonists are responsible for stimulating neurotransmitters that aid in the modulation of neuroendocrine function, respiration, mood, motor control and function, memory, and cognition. This more potent class of compounds shows promise in new medications for the treatment of neurodegenerative diseases like Alzheimer's and Parkinson's disease as well as potential to help manage chronic pain.

BENEFITS OF NICOTINE RECEPTOR LIGANDS:

- Potential treatment option for neurodegenerative diseases - neuroprotective effects that may arrest progression of disease
- Some memory enhancing effects
- Management of chronic pain-more potent and efficacious than morphine in pain suppression
- No detrimental side effects

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Researchers: Simon Efange, PhD

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