Dopamine Receptor Agonists

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Technology description

Background

Dopamine is a neurotransmitter that is important in locomotor control, reward circuitry, cognitive function, prolactin release, and a variety of other key physiological functions. Dopaminergic dysfunctions have been implicated in many disorders including Parkinson's disease, schizophrenia, addiction, and ADHD. Dopamine receptor agonists are of interest in terms of finding successful therapies for these disorders. However, current D1 and D2 receptor agonists can have adverse side effects depending on the level and timing of use.

Technology Summary

Researchers at Purdue University have developed a class of novel D1 dopamine agonists, or stimulants, which may be useful in treating the symptoms of Parkinson's disease and other working memory and cognitive deficits. This series of compounds has potent and selective activity at dopamine D1 receptors, making them useful therapeutic agents in hypodopaminergic conditions. Recent studies have also shown that dopamine D1 agonists are able to reverse drug-induced and age-related deficits in working memory.

Application area

Pharmaceutical companies

Advantages

Advantages

Novel class of dopamine agonists
Potent and selective activity
Clinical precedent

Institution

Purdue University

Inventors

David Nichols
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