



UNIVERSITY of NORTH TEXAS HEALTH SCIENCE CENTER

Technology Transfer & Commercialization

Selective Dopamine D3 Receptor Ligands

Learn more!

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Technology Cases

2007-22
2003-70

Our Inventor

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Patent Status

US Published Application
[2006/0106030](#)
PCT Published
Application [2008/153573](#)

Publications

"Evaluation of the D3 dopamine receptor selective antagonist PG01037 on l-dopa-dependent abnormal involuntary movements in rats"
Neuropharmacology.
56(6-7): 944-55 (2009)

"Structure-Activity Relationships for a Novel Series of Dopamine D2-like Receptor Ligands Based on N-Substituted 3-Aryl-8-azabicyclo[3.2.1]octan-3-ol"
J Med Chem. 51(19):
6095-6109 (2008)

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Discovery

- Novel dopamine D3 receptor ligands

Features

- High affinity and selectivity for the dopamine D3 receptor
- Useful as imaging probes for dopamine D3 receptors and neurodegenerative disorders
- Able to penetrate the blood brain barrier and show activity at relatively low dosages

Benefits

- Compared to nonselective D2/D3 receptor ligands, dopamine D3 selective agents do not demonstrate cocaine-like behavioral profiles or abuse potential
- Eliminates extrapyramidal side effects associated with dopamine D2 class of therapeutic agents
- Dopamine D3 receptor antagonists have been shown to reduce psychostimulant craving in animal models
- More hydrophilic ligands offer improved water solubility and bioavailability compared to other 4-phenylpiperazine derivatives

Opportunities

- Therapeutics useful for the treatment of drug abuse
- Treatment of schizophrenia and CNS diseases such as Parkinson's disease and dyskinesias associated with the disorders and their treatment
- Diagnostic reagents or imaging agents for the analysis of disorders or conditions involving dopamine receptors

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