

Novel Indolethylbenzamides for the Treatment of Tauopathies

Patent Highlight

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Title: Novel Indolethylbenzamides for the Treatment of Tauopathies

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Inventors: Griffioen, G.; Van Dooren, T.; Rojas de la Parra, V.; Marchand, A.; Allasia, S.; Kilonda, A.; Chaltin, P.

Assignee Company: Katholieke Universiteit Leuven, Belgium

Disease Area: Neurodegenerative disorder Biological Target: Tau and/or α -sinuclein

Summary:

This invention provides a novel series of indolethylbenzamides which efficiently inhibit the Tau-aggregation induced toxicity. This class of compounds is useful for preventing or treating neurodegenerative disorders, especially

tauopathies, including Alzheimer's disease and Parkinson's disease.

Important Compound Classes:

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Key Structures:

Recent Review Articles:

- 1. Navarrete, L. P.; Perez, P.; Morales, I.; Maccioni, R. B. Novel drugs affecting Tau behavior in the treatment of Alzheimer's disease and tauopathies. *Curr. Alzheimer Res.* **2011**, 8 (6), 678–685.
- 2. Bulic, B.; Pickhardt, M.; Mandelkow, E.-M.; Mandelkow, E. Tau protein and Tau aggregation inhibitors. *Neuropharmacology* **2010**, *59* (4–5), *276*–289.

Biological Assays

Inhibition of Tau cytotoxicity using a M17-TAU P301L cell line. Inhibitors of Tau cytotoxicity were found to inhibit LDH leakage of M17-TAU P301L cell as described.

In vivo inhibition of pathological Tau-phosphorylation.

 α -Synuclein expressing cells as a model for neuronal degradation.

In vivo inhibition of α -synuclein aggregation.

Special Issue: Alzheimer's Disease

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Pharmacological Data: 90 compounds tested in Tau-induced toxicity experiments. Selected examples are described above.

Synthesis: Preparation of 117 compounds.

Claims 16–17: Use of compounds for the treatment of a variety of diseases, including Alzheimer's disease, Parkinson's disease, frontotemporal dementia, and ALS. Claims:

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Notes

The authors declare no competing financial interest.