

Small Molecule sEH Inhibitors to Treat Alpha-Synuclein Neurodegenerative Disorders

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Technology description

Current diagnosis of Parkinson's disease (PD), a chronic and progressive neurodegenerative disorder, has connections to the deposition of specific protein aggregates termed Lewy bodies. There are several PD symptoms commonly associated with these protein aggregates including palsy and dementia. Although there are multiple treatments for PD, these medications do not stop or reverse the progression of the disease.

Researchers at the University of California, Davis have developed soluble epoxide hydrolase (sEH) inhibitors for the treatment of neurodegenerative disorders. The inhibitors may block the phosphorylation of alpha-synuclein, which plays a key role in the pathogenesis of alpha-synuclein-related neurodegenerative diseases, reducing endoplasmic reticulum stress and possibly prevent the aggregation of Lewy bodies. The small molecule inhibitors are capable of preventing or reversing the progression of neurodegenerative diseases and symptoms.

Researchers at the University of California, Davis have developed small molecule inhibitors to prevent or reverse the progression of neurodegenerative diseases or symptoms.

Related Materials

[Qian Ren, Min Ma, Jun Yang, Risa Nonaka, Akihiro Yamaguchi, Kei-ichi Ishikawa, Kenta Kobayashi, Shigeo Murayama, Sung Hee Hwang, Shinji Saiki, Wado Akamatsu, Nobutaka Hattori, Bruce D. Hammock, Kenji Hashimoto. "Soluble epoxide hydrolase plays a key role in the pathogenesis of Parkinson's disease." Proceedings of the National Academy of Sciences. May 2018, 201802179; DOI: 10.1073/pnas.1802179115.](#)
[NIEHS - Enzyme plays key role in Parkinson's disease and inflammation](#)

Application area

Mitigating, delaying or preventing α -synuclein-related neurodegenerative disorders

Parkinson's disease, dementia, Alzheimer's, ALS, palsy, traumatic brain injury and neurodegeneration

Advantages

Decreases inflammation associated with the pathogenesis of PD

Reduces endoplasmic reticulum stress

May have a role in preventing the aggregation of Lewy bodies

Institution

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