Sortilin is a progranulin receptor preventing frontotemporal dementia

OCR Number: OCR 4924

Description:

Frontotemporal dementia (FTD) is known to be caused by loss of function mutations in the secreted protein progranulin but the physiological role of progranulin in the brain is not known. Yale investigators found that Progranulin binds to the cell surface protein Sortilin as a receptor. Progranulin/sortilin interaction regulates BDNF secretion. Thus, sortilin receptor agonists are predicted to ameliorate deficits in Fronto-Temporal dementia.

Uses:

- Sortilin receptor preparations can be used to screen for compounds that will be therapeutic agents in fronto-temporal dementia.
- Sortilin null mice provide animal model for FTD to screen for FTD drug efficacy.
- Progranulin/sortilin signaling assays can be used to identify other molecular targets in the FTD pathway for therapeutic development.

Novelty and Advantages:

- No treatment for FTD now.
- Progranulin protein itself is a potential future treatment. By using a sortilin receptor assay, small molecule agonists mimicking progranulin action at the sortilin site can be identified.
- Sortilin null mice provide animal model for FTD, no model for FTD is available currently.

IP Status: Provisional application filed.

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