

Tau Protein

Active Human Recombinant Tau (K18), P301L
mutant Protein Pre-formed Fibrils
Catalog No. SPR-330



Discovery through partnership | Excellence through quality

Product Name

Tau Protein

Description

Active Human Recombinant Tau (K18), P301L mutant Protein Pre-formed Fibrils

Applications

WB, SDS-PAGE, In vivo assay, In vitro assay

Concentration

Lot/batch specific. See included datasheet.

Conjugates

No tag

Nature

Recombinant

Species

Human

Expression System

E. coli

Amino Acid Sequence

SRLQTAPVPM PDLKNVSKI GSTENLKHQP GGGKVQIINK KLDLSNVQSK CGSKDNIKHVLGGGSVQIVY KPDLSKVTS KCGS
LGNIIHH KPGGGQVEVK SEKLDFKDRV QSKIGSLDNI THVPGGGNKK IETHKLTFRE

Protein Length

Partial

Biological Activity

Thioflavin T emission curve shows increased fluorescence (correlated to tau protein fibrillation) when active tau PFFs are combined with active tau monomers.

Field Of Use

Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

Properties

Storage Buffer

10 mM HEPES, 100 mM NaCl pH 7.4

Storage Temperature

-80°C

Shipping Temperature

Dry Ice. Shipping note: Product will be shipped separately from other products purchased in the same order.

Purification

Ion-exchange Purified

Specificity

~15.1 kDa

Cite This Product

Human Recombinant Tau Protein (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-330)

Biological Description**Alternative Names**

Active tau PFFs, active tau protein preformed fibrils, active tau aggregates, microtubule-associated protein tau, MAPT, MAP, microtubule-associated protein, Paired Helical Filament-Tau, Phf-Tau, Neurofibrillary Tangle Protein, G Protein Beta1/Gamma2 Subunit-Interacting Factor 1, Isoform 4, tubulin-associated unit

Research Areas

Alzheimer's Disease, Axon Markers, Cell Markers, Cell Signaling, Cytoskeleton, Microtubules, MT Associated Proteins, Neurodegeneration, Neuron Markers, Neuroscience, Tangles & Tau

Cellular Localization

Cytoplasm, Axolemma, Axolemma Plasma Membrane, Axon, Cell Body, Cell membrane, Cytoplasmic Ribonucleoprotein Granule, Cytoplasmic Side, Cytoskeleton, Cytosol, Dendrite, Growth cone, Microtubule, Microtubule Associated Complex, Neurofibrillary Tangle, Neuronal Cell Body, Nuclear Periphery, Nuclear Speck, Nucleus, Peripheral membrane protein, Plasma Membrane, Tubulin Complex

Gene ID

4137

Swiss Prot

P10636

Scientific Background

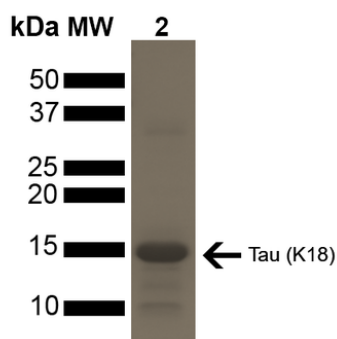
Alzheimer's Disease (AD) is the most common neurodegenerative disease, affecting 10% of seniors over the age of 65 (1). It was named after Alois Alzheimer, a German scientist who discovered tangled bundles of fibrils where neurons had once been in the brain of a deceased patient in 1907 (2). Tau (tubulin-associated unit) is normally located in the axons of neurons where it stabilizes microtubules. Tauopathies such as AD are characterized by

neurofibrillary tangles containing hyperphosphorylated tau fibrils (3). There are six isoforms of tau in the adult human brain: three with four repeat units (4R) and three with three repeat units (3R) (4). K18 is a truncated form of human tau containing only the 4 microtubule binding repeats (5). P301L (PL) is a mutation where proline is replaced by leucine at codon 301 of tau, and has been linked to frontotemporal dementia (6).

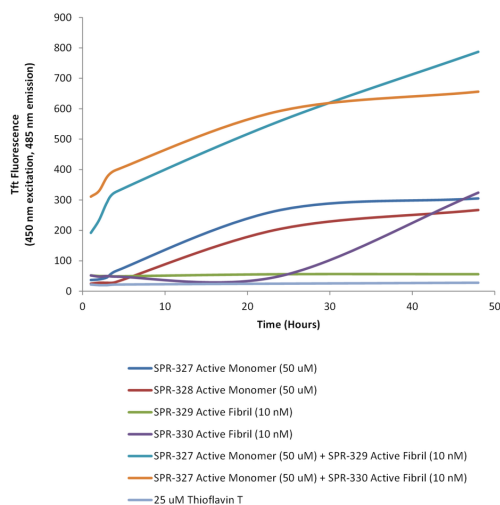
References

1. www.alz.org/alzheimers-dementia/facts-figures
2. Alzheimer, A. Über eine eigenartige Erkrankung der Hirnrinde. Allg. Z. Psychiatr. Psych.-Gerichtl. Med. 64, 146–148 (1907)
3. Matsumoto, G. et al. (2018). Int J Mol Sci. 19, 1497.
4. Goedert, M. and Spillantini, M. G. (2017). Mol Brain. 10:18.
5. Guo, J. and Lee, M.Y. (2013). FEBS Lett. 587(6): 717-723.
6. Alberici, A. et al. (2004). J Neurol Neurosurg Psychiatry. 75:1607-1610.

Product Images



SDS-PAGE of ~15 kDa Active Human Tau Protein K18/P301L Preformed Fibrils (SPR-330). Lane 1: MW Ladder. Lane 2: Active Tau Protein Preformed Fibrils (SPR-330).



Thioflavin T is a fluorescent dye that binds to beta sheet-rich structures, such as those in tau fibrils. Upon binding, the emission spectrum of the dye experiences a red-shift, and increased fluorescence intensity. Thioflavin T emission curves show increased fluorescence (correlated to tau aggregation) over time in active tau

preformed fibrils (SPR-330). Active tau preformed fibrils (SPR-330) seed the formation of new tau fibrils when combined with active tau monomers (SPR-327). Thioflavin T $\lambda_{\text{ex}} = 450 \text{ nm}$, $\lambda_{\text{em}} = 485 \text{ nm}$.

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.