

Tau Protein

Active Human Recombinant Tau441 (2N4R), P301S
mutant Protein Monomer
Catalog No. SPR-327



Discovery through partnership | Excellence through quality

Product Name

Tau Protein

Description

Active Human Recombinant Tau441 (2N4R), P301S mutant Protein Monomer

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

MAEPRQEFEV MEDHAGTYGL GDRKDQGGYT MHQDQEGDTD AGLKESPLQT PTEDGSEEPG SETSDAKSTP TAEDVTAPLV
DEGAPGKQAA AQPHTIPEG TTAEAGIGD TPSLEDEAAG HVTQARMVSK SKDGTGSDDK KAKGADGKTK IATPRGAAPP G
QKGQANATR IPAKTPPAPK TPPSSGEPPK SGDRSGYSSP GSPGTPGSRS RTPSLTPPT REPKKVAVVR TPPKSPSSAK SRLQTA
PVPM PDLKNVSKI GSTENLKHQP GGGKVQIINK KLDLSNVQSK CGSKDNIKHVSGGGSVQIVY KPDLSKVTS KCGSLGNIHH
KPGGGQVEVK SEKLDKDRV QSKIGSLDNI THVPGGGNKK IETHKLFRE NAKAKTDHGA EIVYKSPVVS GDTSPRHLSN VSST
GSIDMV DSPQLATLAD EVSASLAKQG L

Protein Length

Full Length

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

~45.8 kDa

Cite This Product

Human Recombinant Tau Protein (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-327)

Biological Description

Alternative Names

Active tau monomer, active tau protein monomer, active tau protein, microtubule-associated protein tau, MAPT, MAP, microtubule-associated protein, tau-441, Paired Helical Filament-Tau, Phf-Tau, Neurofibrillary Tangle Protein, G Protein Beta1/Gamma2 Subunit-Interacting Factor 1, Isoform 2, 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

Accession Number

NP_005901.2

Gene ID

4137

Swiss Prot

P10636

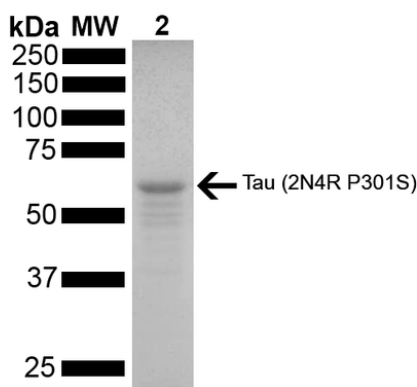
Scientific Background

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). 2N4R, or Tau-441 is the full length tau protein. P301S is a mutation encoded by exon 10 (4) that impairs the ability of tau to assemble microtubules (5).

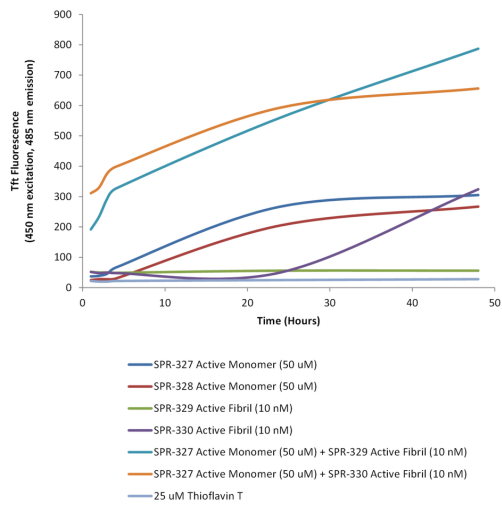
References

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. Bugiani, O. et al. (1999). *J Neuropathol Exp Neurol.* 58(6):667-77.

Product Images



SDS-PAGE of ~67 kDa Active Human Tau Protein 2N4R P301S Monomer (SPR-327). Lane 1: MW ladder. Lane 2: Active Tau Protein Monomer (SPR-327)



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 monomers (SPR-327). A greater increase in fluorescence is seen when 50 uM active monomer (SPR-327) is combined with 10 nM of active fibrils (SPR-329 or SPR-330), as the active fibrils seed the formation of new fibrils from the pool of active monomers. Thioflavin T ex = 450 nm, em = 485 nm.

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.