

Tau active protein

Active Human Recombinant Tau (K18), P301L Mutant Protein Monomer

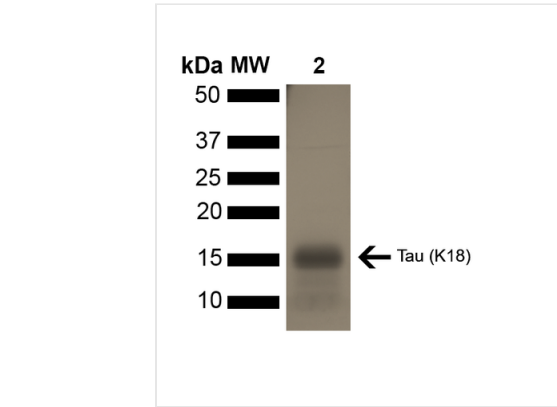
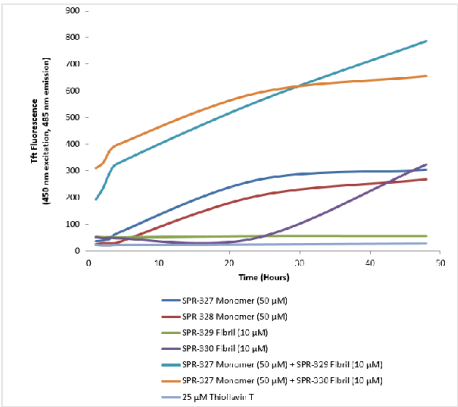
CATALOG # AAA27662	HOST E Coli	APPLICATIONS Western Blot, SDS-Page
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PRODUCT SYNONYMS

Tau; Active Human Recombinant Tau (K18); P301L Mutant Protein Monomer; Tau Protein; 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 4; tubulin-associated unit; Tau active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Specificity	~15.1 kDa
Purity/Purification	Purity: >95% Purification: Ion-exchange Purified
Form/Format	10 mM HEPES, 100 mM NaCl pH 7.4
Concentration	2mg/ml (varies by lot)
Sequence	SRLQTAPVPM PDLKNVSKSI GSTENLKHQP GGGKVQIINK KLDLSNVQSK CGSKDNIKHV LGGGSVQIVY KPVDLISKVTS KCGSLGNIHH KPGGGQVEVK SEKLDFKDRV QSKIGSLDNI THVPGGGNKK IETHKLTFRE
Sequence Length	Partial
Applicable Applications for Tau active protein	WB (Western Blot), SDS-PAGE, Invivo Assay, Invitro Assay
Species	Human
Tag	No tag
Biological Activity	Thioflavin T emission curve shows increased fluorescence (correlated to tau protein fibrillation) when tau PFFs are combined with tau monomers.
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
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Research Areas	Alzheimer's Disease, Axon Markers, Cell Markers, Cell Signaling, Cytoskeleton, Microtubules, MT Associated Proteins, Neurodegeneration, Neuron Markers, Neuroscience, Tangles & Tau
Preparation and Storage	Store at -80 degree C; 1 year+ Avoid freeze/thaw cycle. Shipping Temperature: Dry Ice. Shipping note: Product will be shipped separately from other products purchased in the same order.



Application Data
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) in tau K18 P301L monomers over time. Thioflavin T λ_{ex} = 450 nm, λ_{em} = 485 nm.

SDS-PAGE
SDS-PAGE of ~16 kDa Human Tau Protein K18 P301L Monomer. Lane 1: MW Ladder. Lane 2: Tau Protein Monomer

ADDITIONAL INFORMATION

Related Product Information for Tau active protein	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).
Product Categories/Family for Tau active protein	Alzheimer's Disease; Axon Markers; Cell Markers; Cell Signaling; Cytoskeleton; Microtubules; MT Associated Proteins; Neurodegeneration; Neuron Markers; Neuroscience; Tangles & Tau
References	1. Alzheimer, A. Über eine eigenartige Erkrankung der Hirnrinde. Allg. Z. Psychiatr. Psych.-Gerichtl. Med. 64, 146-148 (1907). 2. Matsumoto, G. et al. (2018). Int J Mol Sci. 19, 1497. 3. Goedert, M. and Spillantini, M. G. (2017). Mol Brain. 10:18. 4. Guo, J. and Lee, M.Y. (2013). FEBS Lett. 587(6): 717-723. 5. Alberici, A. et al. (2004). J Neurol Neurosurg Psychiatry. 75:1607-1610.

NCBI AND UNIPROT INFORMATION

NCBI GI #	294862258
NCBI GeneID	4137
NCBI Accession #	NP_001116538.2
NCBI GenBank Nucleotide #	NP_001116538.2
UniProt Accession #	P10636
NCBI Official Full Name	microtubule-associated protein tau isoform 6
NCBI Official Synonym Full Names	microtubule associated protein tau
NCBI Official Symbol	MAPT
NCBI Official Synonym Symbols	TAU; MSTD; PPND; DDPAC; MAPTL; MTBT1; MTBT2; FTDP-17; PPP1R103
NCBI Protein Information	microtubule-associated protein tau
UniProt Protein Name	Microtubule-associated protein tau

UniProt Gene Name	MAPT
UniProt Synonym Gene Names	MAPTL; MTBT1; TAU; PHF-tau
UniProt Entry Name	TAU_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/tau/27662>