

Tau441 Active Protein | Tau active protein

Active Human Recombinant Tau441 (2N4R), P301S Mutant Protein Preformed Fibrils

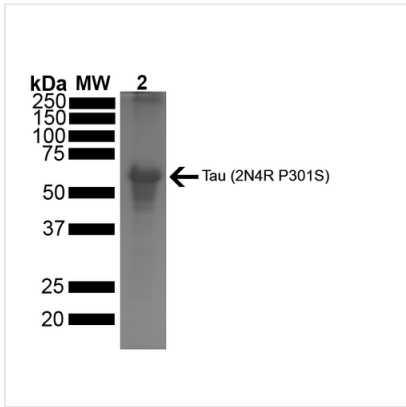
CATALOG # AAA27663	HOST E Coli	APPLICATIONS Western Blot, SDS-Page
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PRODUCT SYNONYMS

Tau441; Active Human Recombinant Tau441 (2N4R); P301S Mutant Protein Preformed Fibrils; Tau Protein; Active tau PFFs; active tau protein preformed fibrils; active tau aggregates; 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; Tau active protein

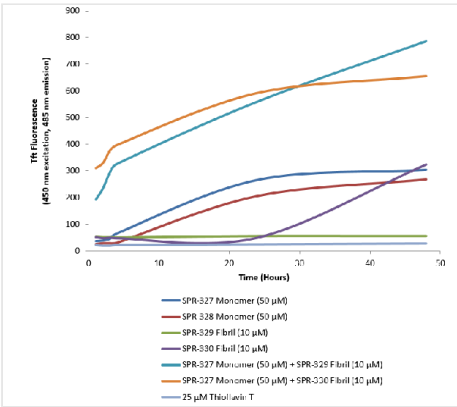
PRODUCT SPECIFICATIONS

Host	E Coli
Specificity	~45.8 kDa
Purity/Purification	>95% Ion-Exchange Purified
Form/Format	10 mM HEPES, 100 mM NaCl pH 7.4
Concentration	2 mg/ml (varies by lot)
Sequence	MAEPRQEFEV MEDHAGTYGL GDRKDQGGYT MHQDQEGDTD AGLKESPLQT PTEDGSEEPG SETSDAKSTP TAEDVTAPLV DEGAPGKQAA AQPHTIEPEG TTAEAEAGIGD TPSLEDEAAG HVTQARMVSK SKDGTGSDDK KAKGADGKTK IATPRGAAPP GQKGQANATR IPAKTPPAPK TPPSSGEPPK SGDRSGYSSP GSPGTPGSRS RTPSLPTPPT REPKKVAVVR TPPKSPSSAK SRLQTAPVPM PDLKNVSKSI GSTENLKHQP GGGKVQIINK KLDLSNVQSK CGSKDNIKHV SGGGSVQIVY KPVDSLKVT S KCGSLGNIHH KPGGGQVEVK SEKLDFKDRV QSKIGSLDNI THVPGGGNKK IETHKLTFRE NAKAKTDHGA EIVYKSPVVS GDTSPRHLSN VSSTGSIDMV DSPQLATLAD EVSASLAKQG L
Sequence Length	Full Length
Applicable Applications for Tau active protein	WB (Western Blot), SDS-PAGE, Invivo Assay, Invitro Assay
Species	Human
Tag	No tag
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.
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	Storage Temperature 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.



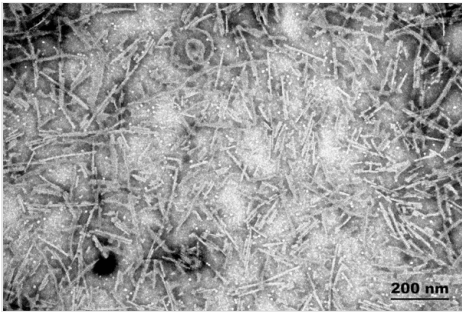
SDS-PAGE

SDS-PAGE of ~67 kDa Human Tau Protein 2N4R P301S Preformed Fibrils. Lane 1: MW Ladder. Lane 2: Tau Protein Preformed Fibrils



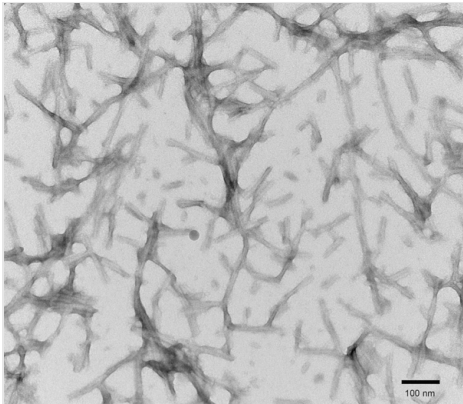
Application Data

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) when tau preformed fibrils are combined with tau monomers. The preformed fibrils seed the formation of new fibrils from a pool of monomers. Thioflavin T ex = 450 nm, em = 485 nm.



Application Data

TEM of recombinant Tau441 (2N4R), P301S mutant preformed fibrils (PFFs). Fibrils were sonicated and stained with uranyl acetate.



Application Data

TEM of recombinant Tau441 (2N4R), P301S mutant preformed fibrils (PFFs) at 150kx magnification. HV = 80kV. Fibrils were sonicated and stained with uranyl acetate.

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

NCBI AND UNIPROT INFORMATION

NCBI GI #	294862258
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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/tau441/27663>