Datasheet for ABIN6929391

tau Protein (full length, Pro301Ser-Mutant)

2 Images

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Overview

Quantity:	100 µg
Target:	tau
Protein Characteristics:	Pro301Ser-Mutant, full length
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	SDS-PAGE (SDS), Western Blotting (WB), In vitro Assay (in vitro), In vivo Studies (in vivo)

Product Details

Purpose:	Active Human Recombinant Tau441 (2N4R), P301S mutant Protein Monomer
Sequence:	MAEPRQEFEV MEDHAGTYGL GDRKDQGGYT MHQDQEGDTD AGLKESPLQT PTEDGSEEPG SETSDAKSTP TAEDVTAPLV DEGAPGKQAA AQPHTEIPEG TTAEEAGIGD TPSLEDEAAG HVTQARMVSK SKDGTGSDDK KAKGADGKTK IATPRGAAPP GQKGQANATR IPAKTPPAPK TPPSSGEPPK SGDRSGYSSP GSPGTPGSRS RTPSLPTPPT REPKKVAVVR TPPKSPSSAK SRLQTAPVPM PDLKNVKSKI GSTENLKHQP GGGKVQIINK KLDLSNVQSK CGSKDNIKHV SGGGSVQIVY KPVDLSKVTS KCGSLGNIHH KPGGGQVEVK SEKLDFKDRV QSKIGSLDNI THVPGGGNKK IETHKLTFRE NAKAKTDHGA EIVYKSPVVS GDTSPRHLSN VSSTGSIDMV DSPQLATLAD EVSASLAKQG L
Specificity:	~45.8 kDa
Purification:	Ion-exchange Purified

Product Details

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

Target Details

Target:	tau
Alternative Name:	Tau (tau Products)
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).
NCBI Accession:	NP_005901
UniProt:	P10636

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Restrictions:	For Research Use only

Handling

Concentration:	Lot specific
Buffer:	10 mM HEPES, 100 mM NaCl pH 7.4
Storage:	-80 °C

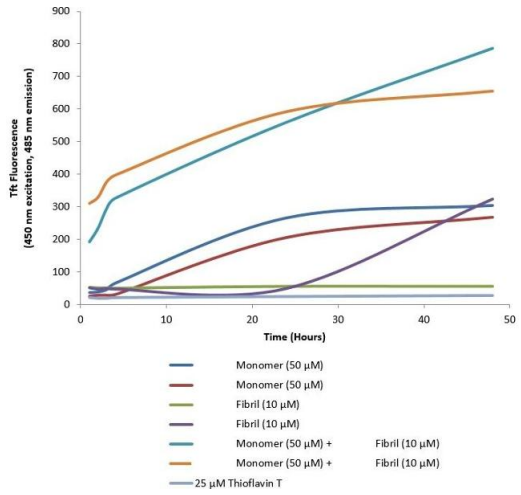
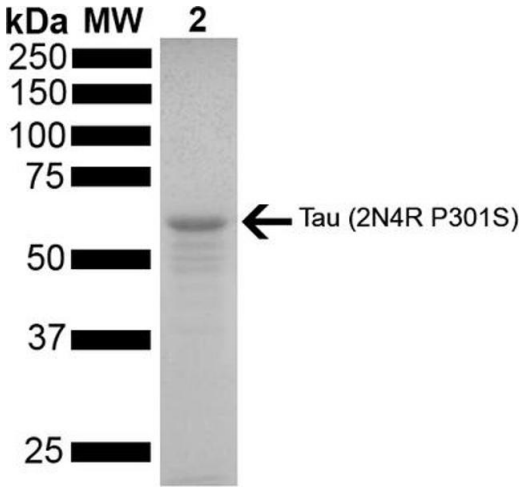


Image 1. Thioflavin T is a fluorescent dye that binds to beta sheet-rich structures, such as those in tau fibrils. Upon binding, the emission spectrum of the dye experiences a red-shift and increased fluorescence intensity. Thioflavin T emission curves show increased fluorescence (correlated to tau aggregation) over time in tau monomers (ABIN6929391, ABIN6929392 and ABIN6929393). A greater increase in fluorescence is seen when 50 uM monomer (ABIN6929391, ABIN6929392 and ABIN6929393) is combined with 10 nM PFFs (ABIN6929391, ABIN6929392 and ABIN6929393 or ABIN6929391, ABIN6929392 and ABIN6929393), as the fibrils seed the formation of new fibrils from the pool of monomers. Thioflavin T ex = 450 nm, em = 485 nm. 10 uM heparin was added to each well.



SDS-PAGE

Image 2. SDS-PAGE of ~67 kDa Human Tau Protein 2N4R P301S Monomer (ABIN6929391, ABIN6929392 and ABIN6929393). Lane 1: MW ladder. Lane 2: Tau Protein Monomer (ABIN6929391, ABIN6929392 and ABIN6929393)