

Datasheet for ABIN6929397  
**tau Protein (full length, Pro301Ser-Mutant)**



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4 Images

### 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 Pre-formed Fibrils
Sequence:	MAEPRQEFEV MEDHAGTYGL GDRKDQGGYT MHQDQEGDTD AGLKESPLQT PTEDGSEEPG SETSDAKSTP TAEDVTAPLV DEGAPGKQAA AQPHTEIPEG TTAEAEAGIGD TPSLEDEAAG HVTQARMVSK SKDGTGSDDK KAKGADGKTK IATPRGAAPP GQKQANATR IPAKTTPAPK TPPSSGEPK SGDRSGYSSP GSPGTPGSR S RTPSLPTPPT REPKKVAVVR TPPKSPSSAK SRLQTAPVPM PDLKNVSKI GSTENLKHQP GGGKVQIINK KLDLSNVQSK CGSKDNIKHV SGGGSVQIVY KVDLSKVTS KCGSLGNIHH KPGGGQVEVK SEKLDKDRV QSKIGSLDNI THVPGGGNKK IETHKLTFRE NAKAKTDHGA EIVYKSPVVS GDTSRHLN VSSTGSIDMV DSPQLATLAD EVSASLAKQG L
Specificity:	~45.8 kDa
Purification:	Ion-exchange Purified

## Product Details

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

## Target Details

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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

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Application Notes: Optimal working dilution should be determined by the investigator.

Restrictions: For Research Use only

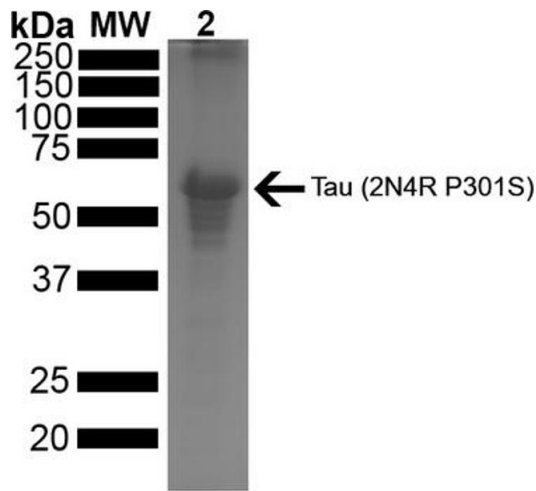
## Handling

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Concentration: Lot specific

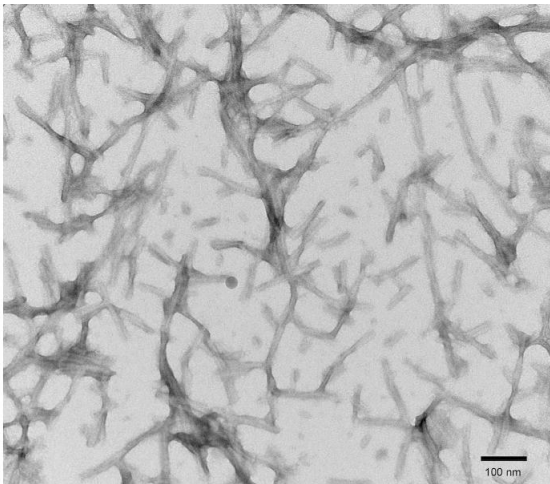
Buffer: 10 mM HEPES, 100 mM NaCl pH 7.4

Storage: -80 °C



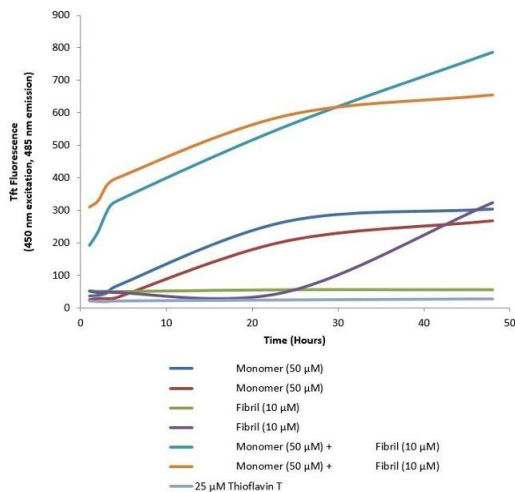
### SDS-PAGE

**Image 1.** SDS-PAGE of ~67 kDa Human Tau Protein 2N4R P301S Pre-formed Fibrils (ABIN6929397, ABIN6929398 and ABIN6929399). Lane 1: MW Ladder. Lane 2: Tau Protein Pre-formed Fibrils (ABIN6929397, ABIN6929398 and ABIN6929399)



### Electron Microscopy

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



**Image 3.** 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 Pre-formed Fibrils (ABIN6929397, ABIN6929398 and ABIN6929399) are combined with tau monomers (ABIN6929397, ABIN6929398 and ABIN6929399). The Pre-formed Fibrils seed the formation of new fibrils from a pool of monomers. Thioflavin T ex = 450 nm, em = 485 nm. 10 uM heparin was added to each well.

Please check the [product details page](#) for more images. Overall 4 images are available for ABIN6929397.