



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant YFP-Human Tau Fusion Protein
Catalog Number: HRP-3066
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Microtubule-associated protein Tau promotes microtubule assembly and stability, and might be involved in the establishment and maintenance of neuronal polarity. The C-terminus binds axonal microtubules while the N-terminus binds neural plasma membrane components, suggesting that tau functions as a linker protein between both. Axonal polarity is predetermined by TAU/MAPT localization (in the neuronal cell) in the domain of the cell body defined by the centrosome. The short isoforms allow plasticity of the cytoskeleton whereas the longer isoforms may preferentially play a role in its stabilization. In Alzheimer disease, hyperphosphorylated Tau protein forms paired helical filaments (PHF) and straight filaments.

Full-length human Tau cDNA (757aa, Isoform-I, derived from BC114948) was constructed with codon optimization gene synthesis and expressed with a YFP Protein N-terminal (YFP; 258aa) fusion at target protein N-terminal in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol:	Tau	(MAPTL; MTBT1)
Accession Number:	NP_058519	
Species:	Human	
Size:	50 µg / Vial	
Composition:	0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose, DTT and others.	
Storage:	In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.	

Key References



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Chojdak-Lukasiewicz J, et al., *Plasma tau protein and Abeta42 level as markers of cognitive impairment in patients with Parkinson's disease* Adv Clin Exp Med 29 (1), 115-121 (2020)

Sohn PD, et al., *Pathogenic Tau Impairs Axon Initial Segment Plasticity and Excitability Homeostasis*. Neuron 104 (3), 458-470 (2019)

Weingarten, M.D., et al., *A protein factor essential for microtubule assembly*. Proc. Natl. Acad. Sci. U.S.A. 72 (5), 1858-1862 (1975)

Applications

1. May be used for in vitro Tau mediated signaling pathway regulation for neuronal cell study using intracellular delivery of recombinant human YFP-Tau protein with protein delivery reagent such as ProFectin.
2. May be used for Tau protein-protein interaction assay.
3. May be used as specific substrate protein for Tau specific kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. As native human Tau immunogen for its specific antibody production

Quality Control

Purity: > 92 % by SDS-PAGE.

YFP protein: **Ex λ** = 517nm, and **Em λ** = 530nm.

Recombinant YFP- Human Tau Fusion Protein Sequence (108.0 kD)

MKHHHHHHQVSKGEELFTGVVPIILVELDGDVNGHKFSVSGEGGDATYGKLTLLKLLCTTGKLPVPWP TLV
TTLGYGVQCFARYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEQDTLVNRIELKGI DFK
EDGNILGHKLEYNYNSHNVYITADKQKNGIKANFKIRHNIEDGGVQLADHYQQNTPIGDGPVLLPDNHYL
SYQSALFKDPNEKRDMVLLLEFLTAAGITEGMNDLYKGSENLYFQGEFAEPRQEFVEMEDHAGTYGLGDR
KDQGGYTMHQDQEGD TDAGLKESPLQTP TEDGSEEPGSETSDAKSTPTAEDVTAPLVDEGAPGKQAAAQP
HTEIPEGTTAAEEAGIGDTPSLEDEAAGHVTQEPESGKVVQEGFLREPGPPGLSHQLMSGMPGAPLLPEGP
REATRQPSGTGPEDETEGGRHAPPELLKHQLLDLHQEGPPLKGAGGKERPGSKEEVEDDRDVEDESSPQDSP
PSKASPAQDGRPPQTAAREATSIPGFPAEGAIPLPVDFLSKVSTEIPASEPDGPSVGRAKQDAPLEFTF
HVEITPNVQKEQAHSEEH LGRAAFPGAPGEGPEARGPSLGEDTKEADLPEPSEKQPAAAPRGKPVSRVPQ
LKARMVSKSKDGTGSDDKKAKTSTRSSAKTLKNRPCLSPKHPTPGSSDPLIQPSSPAVCPEPPSSPKYVS



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SVTSRTGSSGAKEMKLGADGKTKIATPRGAAPPQKGOANATRIPAKTPPAPKTPSSGEPKSGDRSG
YSSPGSPGTPGSRSRTPSLPTPPTREPKKVAVVRTPPKSPSSAKSRLQTAPVPMDDLKNVKSIGSTENL
KHQPGGGKVQIINKKLDLSNVQSKCGSKDNIKHVPGGGSVQIVYKPVLDLSKVTSKCGSLGNIHHKPGGGQ
VEVKSEKLDKDRVQSKIGSLDNI THVPGGGNKKIETHKLTFRENAKAKTDHGAEIVYKSPVVSGDTSPR
HLSNVSTGSDMVDSPLATLADEVASLAKQGL