

DATA SHEET

Product Name: Tau-381 (1N3R), Human, Recombinant, E. coli

Catalog #: T-1004

Source: Recombinant. DNA sequence encoding the human Tau-381 isoform (1N3R) sequence was expressed in E. coli. No his-tag.

Sequence: MAEPRQEFEV MEDHAGTYGL GDRKDQGGYT MHQDQEGDTD
AGLKESPLQT PTEDGSEEPG SETSDAKSTP TAEAEAGIG
DTPSLEDEAA GHVTQARMVS KSKDGTGSDD KKAKGADGKT
KIATPRGAAP PGQKGQANAT RIPA KTPPSSGEP
KSGDRSGYSS PGSPGTPGSR SRTPSLTPP TREP KKVAVV
RTPPKSPSSA KSRLQTAPVP MPDLKNVSK IGSTENLKHQ
PGGGKVQIVY KVDLSKVTS KCGSLGNIHH KPGGGQVEVK
SEKLDKDRV QSKIGSLDNI THVPGGGNKK IETHKLTRE
NAKAKTDHGA EIVYKSPVVS GDTSPRHLSN VSSTGSIDMV
DSPQLATLAD EVSASLAKQG L
pI8.63

Molecular Mass: 39,700

Protein Purity: >90% by SDS-PAGE.

Counter Ion: Lyophilized in final buffer of 50mM MES, pH 6.8, 100 mM NaCl and 0.5 mM EGTA

Supplied As: White lyophilized powder

Resuspension: Resuspend in water at conc. of 1 mg/ml. This will give you a final of 50mM MES, pH 6.8, 100 mM NaCl, 0.5 mM EGTA.

Storage: -20°C

Description: Tau is a family of six isoforms, derived from a single gene by alternative mRNA splicing¹. They vary in size from 352 to 441 amino acids (36.8 to 45.9 kDa), and differ from one another in having three or four microtubule binding repeats (R) of 31-32 amino acids each, and two, one or none amino terminal inserts (N) of 29 amino acids each².

<u>Catalog #</u>	<u>Product</u>	<u>Variant</u>	<u>Exon 2</u>	<u>Exon 3</u>	<u>Exon 10</u>	<u>AA</u>	<u>Mass (kDa)</u>	<u>Expressed</u>
T-1001-1	Tau-441	2N4R	+	+	+	441	45.9	adult
T-1002-1	Tau-410	2N3R	+	+	-	410	42.6	adult

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T-1003-1	Tau-412	1N4R	+	-	+	412	42.9	adult
T-1004-1	Tau-381	1N3R	+	-	-	381	39.7	adult
T-1005-1	Tau-383	0N4R	-	-	+	383	40	adult
T-1006-1	Tau-352	0N3R	-	-	-	352	36.8	fetal

Tau promotes the assembly and maintains the structure of microtubules in neuronal cells^{3,4,5}. While the fetal brain contains a single isoform of tau (Tau-352) the adult brain has several isoforms. Tau is both phosphorylated and O-GlcNAcylated⁶. The normal brain tau contains 2-3 moles of phosphate/mole of the protein. In Alzheimer disease tau is hyperphosphorylated, containing 3-4-fold more phosphate/mole of the protein than the normal tau^{7,8} and is the major protein subunit of paired helical filaments (PHF) that form the neurofibrillary tangles (NFT). NFT accumulation correlates with the clinical progression of Alzheimer's disease.

References:

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