



"Your R&D Partner"

DATA SHEET

Product Name: Tau-410 (2N3R), Human, Recombinant, E. coli

Catalog #: T-1002

Source: Recombinant. DNA sequence encoding the human Tau-410 isoform (2N3R) sequence was expressed in E. coli. No his-tag.

Sequence: MAEPRQEFEV MEDHAGTYGL GDRKDQGGYT MHQDQEGDTD AGLKESPLQT
PTEDGSEEPG SETSDAKSTP TAEDVTAPLV DEGAPGKQAA AQPHEIPEG
TTAEEAGIGD TPSLEDEAAG HVTQARMVSK SKDGTGSDDK KAKGADGKTK
IATPRGAAPP GQKGQANATR IPAKTPPAPK TPPSSGEPPK SGDRSGYSSP
GSPGTPGSRs RTPSLTPPT REPKKVAVVR TPPKSPSSAK SRLQTAPVPM
PDLKNVSKI GSTENLKHQP GGGKVQIVYK PVDLSKVTSK CGSLGNIHHK
PGGGQVEVKS EKLDFKDRVQ SKIGSLDNIT HVPGGGNKKI ETHKLTREN
AKAKTDHGAE IVYKSPVVS G DTSRHLNSV SSTGSIDMVD SPQLATLADE
VSASLAKQGL

pI 6.56

Molecular Mass: 42,600

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 and 0.5 mM EDTA.

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.

www.rpeptide.com

4241 Mars Hill Road • Bogart • Georgia • 30622 • USA
Tel 678-753-0747 • Fax 678-753-0746 • E-mail info@rpeptide.com



"Your R&D Partner"

<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
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:

1. Himmler, et. al., 1989, Mol Cell Biol. **9**, 1381
2. Goedert, M., et. al. 1989, Neuron. **3**, 519.
3. Avila J. et. al., 2004, Physiol Rev. **84**, 361.
4. Goedert, M., 1993, Trends Neurosci. **16**, 460.
5. Mandelkow, E. et al. 1996, Ann N Y Acad Sci. **777**, 96.
6. Liu, F., et. al., 2004, Proc. Natl. Acad. Sci. U.S.A. **101**, 10804.
7. Iqbal, K., et. al., 1986, Lancet **2**, 421.
8. Kopke, et. al., 1993, J. Biol. Chem. **268**, 2437

For research use only. Not for use in humans.