

## DATA SHEET

<b>Product Name:</b>	Tau-441 (2N4R), Human, Recombinant, E. coli
<b>Catalog #:</b>	T-1001
<b>Source:</b>	Recombinant. DNA sequence encoding the human Tau-441 isoform (2N4R) sequence was expressed in E. coli. No his-tag.
<b>Sequence:</b>	MAEPRQEFEV MEDHAGTYGL GDRKDQGGYT MHQDQEGDTD AGLKESPLQT PTEDGSEEPG SETSDAKSTP TAEDVTAPLV DEGAPGKQAA AQPHTIPEG TTAEEAGIGD TPSLEDEAAG HVTQARMVSK SKDGTGSDDK KAKGADGKTK IATPRGAAPP GQKGQANATR IPAKTPPAPK TPPSSGEPPK SGDRSGYSSP GSPGTPGSRS RTPSLPTPPT REPKKVAVVR TPPKSPSSAK SRLQTAPVPM PDLKNVSKI GSTENLKHQP GGGKVQIINK KLDLSNVQSK CGSKDNIKHV PGGGSVQIVY KPVDSLKVTS KCGSLGNIHH KPGGGQVEVK SEKLDFKDRV QSKIGSLDNI THVPGGGNKK IETHKLFRE NAKAKTDHGA EIVYKSPVVS GDTSPRHLSN VSSTGSIDMV DSPQLATLAD EVSASLAKQGL
<b>Molecular Mass:</b>	45,900 Da
<b>Protein Purity:</b>	>90% by SDS-PAGE.
<b>Counter Ion:</b>	Lyophilized in final buffer of 50mM MES, pH 6.8, 0.5mM EGTA, 100mM NaCl
<b>Supplied As:</b>	White lyophilized powder
<b>Resuspension:</b>	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.
<b>Storage:</b>	-20°C
<b>Description:</b>	Tau is a family of six isoforms, derived from a single gene by alternative mRNA splicing <sup>1</sup> . 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 ( <u>R</u> ) of <u>31-32 amino acids each</u> , and two, one or none amino terminal inserts ( <u>N</u> ) of <u>29 amino acids each</u> <sup>2</sup> .

<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

# rPeptide

Premiere Peptide Solutions

<b>T-1004-1</b>	<b>Tau-381</b>	1N3R	+	-	-	381	39.7	adult
<b>T-1005-1</b>	<b>Tau-383</b>	0N4R	-	-	+	383	40	adult
<b>T-1006-1</b>	<b>Tau-352</b>	0N3R	-	-	-	352	36.8	fetal

Tau promotes the assembly and maintains the structure of microtubules in neuronal cells<sup>3,4,5</sup>. While the fetal brain contains a single isoform of tau (Tau-352) the adult brain has several isoforms. Tau is both phosphorylated and O-GlcNAcylated<sup>6</sup>. 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<sup>7,8</sup> 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.**

[www.rpeptide.com](http://www.rpeptide.com)

1050 Barber Creek • Bldg 300 • Suite 103 • Watkinsville • Georgia • 30677 • USA  
Tel 678-753-0747 • Fax 678-753-0746 • E-mail [info@rpeptide.com](mailto:info@rpeptide.com)