

# rPeptide

Premiere Peptide Solutions

## DATA SHEET

**Product Name:** Tau Starter Kit

**Catalog #:** T-1170  
Contains one each of:  
T-1001, T-1002, T-1003, T-1004, T-1005, T-1006

**Source:** Recombinant. DNA sequence encoding the human Tau-441 isoform (2N4R) sequence was expressed in E. coli. No his-tag.

**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.

**Storage:** -20°C

**Description:** 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 (R) of 31-32 amino acids each, and two, one or none amino terminal inserts (N) of 29 amino acids each<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>
<b>T-1001-1</b>	<b>Tau-441</b>	2N4R	+	+	+	441	45.9	adult
<b>T-1002-1</b>	<b>Tau-410</b>	2N3R	+	+	-	410	42.6	adult
<b>T-1003-1</b>	<b>Tau-412</b>	1N4R	+	-	+	412	42.9	adult
<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.

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**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.**

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