

DATA SHEET

Product Name:	Tau Protein Ladder, Human, Recombinant, E. coli
Catalog #:	T-1007
Source:	Recombinant, in E. coli. <u>No</u> his-tag.
Molecular Mass:	45,900; 42,600; 42,900; 39,700; 40,000; 36,800
Protein Purity:	>90% by SDS-PAGE.
Counter Ion:	Final buffer: 125mM Tris-HCl, pH 6,8; 4%SDS, 10% 2-mercaptoethanol, 20% glycerol, and 0,004% bromphenol blue.
Supplied As:	Solution
Concentration:	50 µl Tau protein marker (contains 0.25µg of each of the six isoforms)
Notes on Use:	For imunoblotting: 2 µl for mini-gels and 5 µl for full length gels. For electrophoresis: use 10 µl for mini-gels and 20 µl for full length gels.

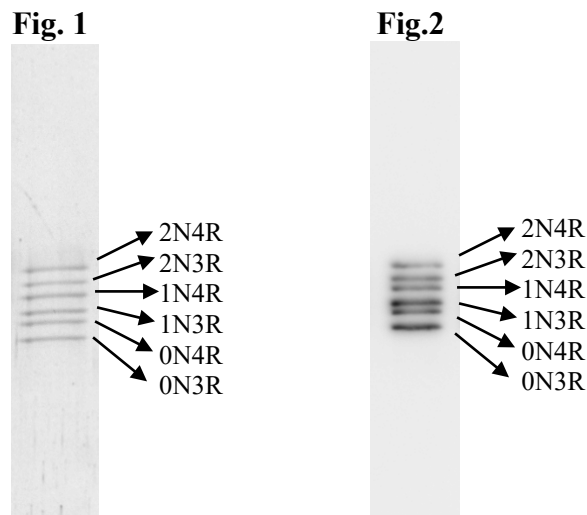


Figure 1: Electrophoresis. 10µ of tau protein marker (mix of six human tau isoforms) was run on a 5-20 % SDS-PAGE mini-gel to verify purity.

Figure 2: Immunoblotting. 2µ of tau protein marker (mix of six human tau isoforms) was run on a 5-20 % SDS-PAGE mini-gel.

Storage: -70°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
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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