rPeptide
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DATA SHEET

Product Name:	Tau Protein Ladder
Catalog #:	T-1007
Source:	Recombinant, in E. coli. No his-tag.
Molecular Mass:	45,900; 42,600; 42,900; 39,700; 40,000; 36,800 Da
Protein Purity:	>90% by SDS-PAGE
Counter Ion:	125mM Tris-HCl, pH 6,8; 4%SDS, 10% 2-mercaptoethanol, 20% glycerol, and 0.004% bromophenol blue.
Supplied As:	Liquid
Concentration:	50 µl of Tau protein marker contains 0.25µg of each of the six isoforms
Storage:	–70^{0}C
Usage:	For immunoblotting: 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.
Description:	Tau is a family of major neuronal microtubule associated proteins that are found in the neurofibrillary tangles (NFT) in Alzheimer's disease. Tau promotes the assembly and maintains the structure of microtubules in neuronal cells[1,2,3]. The tau proteins are derived from alternative mRNA splice variants that originate from a single gene and result in mature proteins that vary in size from 352 to 441 amino acids (36.8 to 45.9 kDa). There are six tau isoforms that differ from one another in having three or four microtubule binding repeats (R) of 31-32 amino acids each, and two, one or zero amino terminal inserts (N) of 29 amino acids each[4]. While the fetal brain contains a single isoform of tau (tau-352) the adult brain has several isoforms all derived from a single gene by alternative mRNA splicing[5]. rPeptide provides all six major isoforms of tau as well as several mutations of the wild type proteins, in addition to labeled products or preformed fibrils of the tau-441 isoform.
References:	1. Avila, J., et al., (2004) Physiol Rev., *84*: 361 2. Goedert, M., (1993) Trends Neurosci., *16*: 460 3. Mandelkow, E., et al., (1996) Ann N Y Acad Sci., *777*: 96 4. Goedert, M., et al., (1989) Neuron., *3*: 519 5. Himmler, et al., (1989) Mol Cell Biol., *9*: 1381 6. Tai, C., et al., (2020) Neuron., *106(3)*: 421-437.e11 7. Nobuhara, C., et al., (2017) Am J Pathol., *187(6)*: 1399–1412

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