

DATA SHEET

Product Name:	Tau-4G11 Antibody Kit
Catalog #:	TA-1007
Host:	Mouse; Contains one each of: TA-1001, T-1005
Reactivity Species:	Human
Isotype:	IgA
Protein Purity:	>90% by SDS-PAGE
Supplied As:	Liquid
Counter-ion:	1x PBS Buffer pH 7.4
Storage:	-80°C

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 each⁴. 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 splicing⁵. 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. Tau-4G11 (TA-1001) is an rPeptide exclusive tau monoclonal antibody that binds 4 out of the 6 tau isoforms. This antibody specifically binds tau-381, tau-410, tau-412, and tau-441 which all contain at least one amino terminal insert.

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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