

Product Information

Tau Protein Ladder, 6 isoforms, human recombinant, expressed in *E. coli*

Catalog Number **T7951**

Storage Temperature -20°C

Product 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}

While the fetal brain contains a single isoform of Tau protein (Tau-352), the adult brain has several isoforms, all derived from a single gene by alternative mRNA splicing.⁴ The adult brain Tau proteins are mature proteins that vary in size from 352 to 441 amino acids (36.8 to 45.9 kDa). The six Tau isoforms differ from one another by the number (3 or 4) of microtubule binding repeats (R) of 31–32 amino acids each, and the number (0, 1, or 2) of amino terminal inserts (N) of 29 amino acids each.⁵ The six isoforms are designated:

0N3R	0N4R
1N3R	1N4R
2N3R	2N4R

This product contains 6 recombinant Tau proteins expressed in *E. coli*, with molecular masses of 36.8, 39.7, 40.0, 42.6, 42.9, and 45.9 kDa, respectively. The proteins are expressed without histidine-tags. The purity of each protein is >90% (SDS-PAGE).

This product is supplied as a solution in 125 mM Tris-HCl, pH 6.8, with 4% SDS, 10% 2-mercaptoethanol, 20% glycerol, and 0.004% bromophenol blue. 50 μL of the Tau Protein Ladder contains 0.25 μg of each of the six isoforms.

Storage/Stability

Store the product at -20°C . This product may also be stored at -70°C .

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Procedure

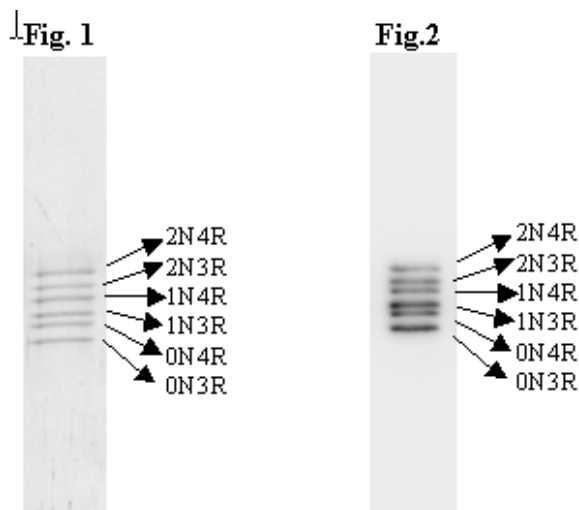
For immunoblotting: use 2 μL for mini-gels, and 5 μL for full-length gels.

For electrophoresis: use 10 μL for mini-gels, and 20 μL for full-length gels.

Results

Figure 1. Electrophoresis: 10 μL of Tau Protein Ladder run on a 5–20% SDS-PAGE mini-gel to verify purity.

Figure 2. Immunoblotting: 2 μL of Tau Protein Ladder run on a 5–20% SDS-PAGE mini-gel.



References

1. Avila, J. *et al.*, *Physiol. Rev.*, **84**(2), 361-384 (2004).
2. Goedert, M., *Trends Neurosci.*, **16**(11), 460-465 (1993).
3. Mandelkow, E. *et al.*, *Ann. N.Y. Acad. Sci.*, **777**, 96-106 (1996).
4. Himmler, A. *et al.*, *Mol. Cell Biol.*, **9**(4), 1381-1388 (1989).
5. Goedert, M. *et al.*, *Neuron*, **3**(4), 519-526 (1989).

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