



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Tau-412 human

Recombinant, expressed in *E. coli*

Product Number **T0326**

Storage Temperature -70°C

Product Description

Tau-412 human, recombinant, is an isoform of Tau, variant 1N4R, having 4 microtubule binding repeats (R) and one amino terminal insert (N).

The protein is purified without any acid treatment and is suitable for promoting microtubule assembly, and for hyperphosphorylation-induced self-assembly into filaments.

Tau is a family of neuronal microtubule-associated proteins. Tau promotes assembly and stabilizes neuronal microtubules under normal physiological conditions, but under pathological conditions can also undergo modifications such as hyperphosphorylation, that can result in the generation of aberrant aggregates such as found in neurofibrillary tangles in Alzheimer's disease.¹ Six isoforms have been found that differ from each other in having either 3 or 4 binding repeats (R) of 31-32 amino acids, and from zero to 3 amino terminal inserts (N) of 29 amino acids each.^{2,3}

Reagent

The product is supplied lyophilized from MES, pH 6.8 containing NaCl and EGTA.

Precautions and Disclaimer

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

Preparation Instructions

Reconstitute with sterile water. When reconstituted in water to a protein concentration of 1 mg/ml, the resulting buffer will have approximately 50 mM MES, pH 6.8, 100 mM NaCl and 0.5 mM EGTA.

Storage/Stability

Lyophilized powder and reconstituted solution should be stored at -20°C or below. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

References

1. Avila, J., et al., Role of tau protein in both physiological and pathological conditions, *Physiol. Rev.* **84**, 361-384 (2004).
2. Goedert, M., et al., Multiple isoforms of human microtubule-associated protein tau: sequences and localization in neurofibrillary tangles of Alzheimer's disease, *Neuron* **3**, 519-526 (1989).
3. Himmler, A., et al., Tau consists of a set of proteins with repeated C-terminal microtubule-binding domains and variable N-terminal domains, *Mol. Cell Biol.* **9**, 1381-1388 (1989).

MCT,PHC 05/05-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.