

Fetal-tau Protein, Human, Recombinant (His)

General Information

Synonyms:	PPND;FTDP-17;MTBT1;DDPAC;MAPTL;MTBT2;microtubule-associated protein tau;PPP1R103;MAPT;MSTD;TAU
Protein Construction:	A DNA sequence encoding the mature form of human MAPT (NP_058525.1) (Ala2-Leu352) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	P10636-2
Molecular Weight:	38.7 kDa (predicted); 40-50 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

MAPT (microtubule-associated protein tau) can produce tau proteins. Tau proteins are proteins that stabilize microtubules. They are abundant in neurons of the central nervous system and are less common elsewhere, but are also expressed at very low levels in CNS astrocytes and oligodendrocytes. When tau proteins are defective, and no longer stabilize microtubules properly, they can result in dementias such as Alzheimer's disease. Tau

protein is a highly soluble microtubule-associated protein (MAP). In humans, these proteins are mostly found in neurons compared to non-neuronal cells. One of tau's main functions is to modulate the stability of axonal microtubules. Other nervous system MAPs may perform similar functions, as suggested by tau knockout mice, who did not show abnormalities in brain development - possibly because of compensation in tau deficiency by other MAPs.

Reference

Harada A, et al. (1994) Altered microtubule organization in small-calibre axons of mice lacking tau protein.

Nature. 369(6480):488-91.

Weingarten MD, et al. (1975) A protein factor essential for microtubule assembly. Proc Natl Acad Sci. 72(5):1858-62.

Goedert M, et al. (1989) Multiple isoforms of human microtubule-associated protein tau: sequences and localization in neurofibrillary tangles of Alzheimer's disease. Neuron. 3(4): 519-26.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481