

## Tau Protein, Rat, Recombinant (His)

## General Information

|                       |   |
|-----------------------|---|
| Synonyms:             | Paired helical filament-tau (PHF-tau);Tau;Microtubule-associated protein tau;Mapt;Mtapt;Neurofibrillary tangle protein  |
| Protein Construction: | 2-752 aa  |
| Species:              | Rat   |
| Expression Host:      | HEK293 Cells  |
| Accession:            | P19332  |
| Molecular Weight:     | 81.2 kDa (predicted)  |
| AA Sequence:          | AEPRQEFDTMEDQAGDYTMLQDQEGDMDHGLKESPPQPPADDGSEEPGSETSDAKSTPTAEDVTAPLVEE<br>RAPDKQATAQSHTIEPEGTTAEEAGIGDTPNMEDQAAGHVTVQEPQKVEIFSQSLLVEPGRREGQAPDSGISD<br>WTHQVPSMSGAPLPPQGLREATHQPLGTRPEDVERSHPASELLWQESPQKEAWGKDRLGSEEEVDEDIT<br>MDESSQESPPSQASLAPGTATPQARSVSASGVSGETTSIPGFPAEGSIPLPADFFSKVSAETQASPPEGPGTGP<br>SEEGHEAAPEFTFHVEIKASAPKEQDLEGATVVGAPAEQKARGPSVGKGTKEASLLEPTDKQPAAGLPGRPV<br>SRVPQLKARVAGVSKDRTGNDEKKAKTSTPSCAKTPSNRPLSPTRPTPGSSDPLIKPSSPAVCPEPATSPKYV<br>SSVTPRNGSPGKQMKLKGADGKTGAKIATPRGAATPGQKGTSNATRIPAKTTPSPKTPPGSGEPPKSGERS<br>GYSSPGSPGTPGSRSLPTPTREPKKVAVVRTPPKSPSASKSRLQTAPVPMPLKNVRSKIGSTENLKH<br>QPGGGKVQIINKKLDLSNVQSKCGSKDNIKHVPGGGSVHIVYKPVDLKVTSKCGSLGNIHHKPGGGQVEVK<br>SEKLDKDRVQSKIGSLDNITHVPGGGNKKIETHKLTFRENAKAKTDHGAEIVYKSPVVSVDTSRHLNSVST<br>GSIDMVDSPQLATLADEVSAASLAKQGL |

## QC Testing

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|----------------------|---|
| Biological Activity: | Measured by its binding ability in a functional ELISA. Immobilized Rat Mapt at 2 µg/mL can bind anti-MAPT recombinant antibody, the EC 50 is 136.2-238.9 ng/mL. |
| Purity:              | > 95% as determined by SDS-PAGE.  |
| Endotoxin:           | < 1.0 EU/µg of the protein as determined by the LAL method.   |
| Formulation:         | Lyophilized from a solution filtered through a 0.22 µm filter, containing 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0                                      |

## Preparation and Storage

## Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 µg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

## Stability &amp; Storage:

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

Promotes microtubule assembly and stability, and might be involved in the establishment and maintenance of neuronal polarity. The C-terminus binds axonal microtubules while the N-terminus binds neural plasma membrane components, suggesting that tau functions as a linker protein between both. Axonal polarity is predetermined by tau localization (in the neuronal cell) in the domain of the cell body defined by the centrosome. The short isoforms allow plasticity of the cytoskeleton whereas the longer isoforms may preferentially play a role in its stabilization.

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