Microtubule-associated protein tau Protein, Mouse (P.pastoris, His)

Cat. No.:	HY-P71752
Synonyms:	Mapt; Mtapt; Tau; Microtubule-associated protein tau; Neurofibrillary tangle protein; Paired helical filament-tau; PHF-tau
Species:	Mouse
Source:	P. pastoris
Accession:	P10637 (A2-L733)
Gene ID:	17762
Molecular Weight:	Approximately 78.1 kDa

PROPERTIES

AA Sequence	A D P R Q E F D T M E D H A G D Y T L L Q D Q E G D M D H G L K E S P P Q P P A D D G A E E P G S E T S D A K S T P T A E D V T A P L V D E R A P D K Q A A A Q P H T E I P E G I T A E E A G I G D T P N Q E D Q A A G H V T Q G R R E G Q A P D L G T S D W T R Q Q V S S M S G A P L L P Q G L R E A T C Q P S G T R P E D I E K S H P A S E L L R R G P P Q K E G W G Q D R L G S E E E V D E D L T V D E S S Q D S P P S Q A S L T P G R A A P Q A G S G S V C G E T A S V P G L P T E G S V P L P A D F F S K V S A E T Q A S Q P E G P G T G P M E E G H E A A P E F T F H V E I K A S T P K E Q D L E G A T V V G V P G E E Q K A Q T Q G P S V G K G T K E A S L Q E P P G K Q P A A G L P G R P V S R V P Q L K A R V A S K D R T G N D E K K A K T S T P S C A K A P S H R P C L S P T R P T L G S S D P L I K P S S P A V S P E P A T S P K H V S S V T P R N G S P G T K Q M K L K G A D G K T G A K I A T P R G A A S P A Q K G T S N A T R I P A K T T P S P K T P P G S G E P P K S G E R S G Y S S P G S P G T P G S R S R T P S L P T P P T R E P K K V A V V R T P P K S P S A S K S R L Q T A P V P M P D L K N V R S K I G S T E N L K H Q P G G G K V Q I I N K K L D L S N V Q S K C G S K D N I K H V P G G G S V Q I V Y K P V D L S K V T S K C G S L G N I H H K P G G G Q V E V K S E K L D F K D R V Q S K I G S L D N I T H V P G G G N K K I E T H K L T F R E N A K A K T D H G A E I V Y K S P V V S G D T S P R H L S N V S S T G S I D M V D S P Q L A T L A D E V S A S L A K Q G L
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 m sterile filtered 20 mM Tris-HCl, 0.5 M NaC, 6% Trehalose, PH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Microtubule-associated protein tau (MAPT) is a key player in the promotion of microtubule assembly and stability, suggesting its potential involvement in the establishment and maintenance of neuronal polarity. Its C-terminus binds to axonal microtubules, while the N-terminus interacts with neural plasma membrane components, indicating tau's role as a crucial linker protein bridging these cellular structures. The predetermined axonal polarity is dictated by tau's localization within the neuronal cell, specifically in the domain defined by the centrosome. Short isoforms of MAPT contribute to the plasticity of the cytoskeleton, whereas longer isoforms may preferentially play a role in its stabilization. MAPT engages in diverse interactions with various proteins such as MARK1, MARK2, MARK3, MARK4, SQSTM1, PSMC2, FKBP4, CSNK1D, SGK1, EPM2A, PIN1, LRRK2, and LRP1, participating in processes ranging from ubiquitination to dephosphorylation and endocytosis. These intricate interactions highlight MAPT's multifaceted involvement in cellular dynamics.

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