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Recombinant Mouse Tyrosine 3-monooxygenase/TH Protein

Catalog No.: RP03140 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Mouse	21823	P24529

Tags
N-His

Synonyms
Tyrosine 3-monooxygenase; Tyrosine 3-hydroxylase; TH

Product Information

Source	Purification
Baculovirus-Insect Cells	≥ 85 % as determined by SDS-PAGE.

Calculated MW	Observed MW
56.68 kDa	65 kDa

Endotoxin
< 1 EU/μg of the protein by LAL method.

Formulation
Lyophilized from a 0.22 μm filtered solution of 20mM Tris, 500mM NaCl, pH 7.4, 10% gly. Contact us for customized product form or formulation.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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Background

Tyrosine hydroxylase (TH) is a rate-limiting enzyme in catecholamine synthesis. Tyrosine hydroxylase activity is modulated by protein-protein interactions with enzymes in the same pathway or the tetrahydrobiopterin pathway, structural proteins considered to be chaperones that mediate the neuron's oxidative state, and the protein that transfers dopamine into secretory vesicles. It is phosphorylated at serine (Ser) residues Ser8, Ser19, Ser31 and Ser40 in vitro. The phosphorylation of tyrosine hydroxylase at Ser19 or Ser8 has no direct effect on tyrosine hydroxylase activity. As tyrosine hydroxylase (TH) catalyses the formation of L-DOPA, the rate-limiting step in the biosynthesis of DA, the Parkinson's disease (PD) can be considered as a TH-deficiency syndrome of the striatum. A direct pathogenetic role of TH has also been suggested, as the enzyme is a source of reactive oxygen species (ROS) in vitro and a target for radical-mediated oxidative injury. Recently, it has been demonstrated that L-DOPA is effectively oxidized by mammalian Tyrosine hydroxylase in vitro, possibly contributing to the cytotoxic effects of DOPA.

Basic Information

Description
Recombinant Mouse Tyrosine 3-monooxygenase/TH Protein is produced by Baculovirus-Insect Cells expression system. The target protein is expressed with sequence (Pro2-Ser498) of Mouse Tyrosine 3-monooxygenase/TH (Accession #NP_033403.1) fused with His tag at the N-terminus.

Bio-Activity

Shipping
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

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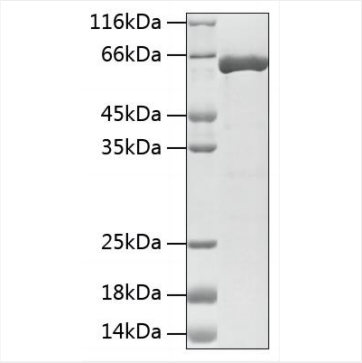
Validation Data



Recombinant Mouse Tyrosine 3-monooxygenase/TH Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.

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