Recombinant Human TH TYH Protein(Trx Tag)

Catalog Number: PDEH100636

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

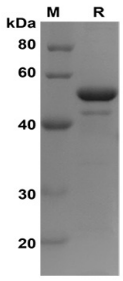
Description

Species	Human
Source	E.coli-derived Human TH TYH protein Met1-Arg260, with an N-terminal Trx
Calculated MW	48.4 kDa
Observed MW	50 kDa
Accession	P07101-3
Bio-activity	Not validated for activity

Properties

Purity	> 90% as determined by reducing SDS-PAGE.
Endotoxin	< 10 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 ℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human TH TYH proteins, 2μg/lane of Recombinant Human TH TYH proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 50 KD

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.

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