
Recombinant Human TH / Tyrosine Hydroxylase Protein (His tag)**Cat.NO.: TP06543**

3th Edition

Synonyms:DYT14;DYT5b;TYH

Description: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. 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.

Form:PBS**Molecular Weight:**57.6 kDa**Sequences:**Pro 2-Gly 497**Purity:**> 95% by HPLC**Concentration:****Endotoxin Level:**<1.0 EU per 1 ug of protein (determined by LAL method)**Storage:**Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.