Pel-Freez® BIOLOGICALS

205 North Arkansas Street
Rogers, AR 72756

PRODUCT DATA SHEET

Product Name: **ANTI-PHOSPHO-Ser^{58} TRYPTOPHAN HYDROXYLASE 1 ANTIBODY**

Product Code: P40033-100

Pack Size: 100 µL

Description: Tryptophan hydroxylase (TPH) catalyzes the 5-hydroxylation of tryptophan, which is the first step in the biosynthesis of indoleamines (serotonin and melatonin) (Martinez et al., 2001). In mammals, serotonin biosynthesis occurs predominantly in neurons which originate in the Raphe nuclei of the brain, and melatonin synthesis takes place within the pineal gland. Although TPH catalyzes the same reaction within the Raphe nuclei and the pineal gland, TPH activity is rate-limiting for serotonin but not melatonin biosynthesis. Serotonin functions mainly as a neurotransmitter, whereas melatonin is the principal hormone secreted by the pineal gland. The activity of TPH is enhanced by phosphorylation by cAMP-dependent protein kinase (PKA) and Ca^{2+}/calmodulin kinase II (CaM K II) (Jiang et al., 2000; Johansen et al., 1996). Both PKA and CaM K II phosphorylate Ser^{58} which lies within the regulatory domain of TPH (Kuhn et al., 1997).

Physical State: Liquid; Buffer contents: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per mL BSA and 50% glycerol

Storage/Stability: Stable at -20 °C for at least 1 year. For long term storage -20 °C is recommended

Purification Method: Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Shipping Conditions: Domestic: Blue Ice
International: Blue Ice or Dry Ice

Host Species: Rabbit (Polyclonal)

***Mr* (kDa):** 53

Immunogen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser^{58} of tryptophan hydroxylase 1 (TPH1).

Species Reactivity: The antibody has been directly tested for reactivity in Western blots with rabbit tissue. It is anticipated that the antibody will react with bovine, canine, human, mouse, non-human primate, rat, Xenopus and zebra fish based on the fact that these species have 100% homology with the amino acid sequence used as antigen.

Recommended Antibody Dilutions:

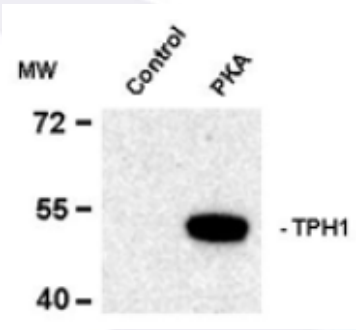
WB: 1:1000

References:

1) Jiang GC et al. (2000) *J Mol Biol* 302:1005-1017.
2) Johansen PA et al. (1996) J *Neurochem* 66:817-823.
3) Kuhn, DM et al. (1997) *J Neurochem* 68:2220-2223.
4) Martinez A et al. (2001) *Curr Med Chem* 8:1077-1091.

Western Blot

Recombinant tryptophan hydroxylase incubated in the absence (Control) and presence of cAMP-dependent protein kinase (PKA) showing specific immunolabeling of the ~53k tryptophan hydroxylase protein phosphorylated at Ser^{58}.



Application Key: **WB – Western Blot** **IF – Immunofluorescence** **IHC – Immunohistochemistry** **IP - Immunoprecipitation**

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