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Product Datasheet

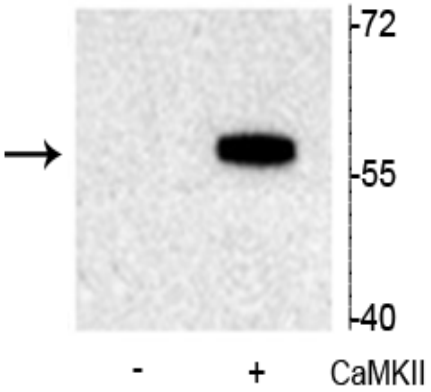
Anti-Tryptophan Hydroxylase (Ser19)

Pooled Serum

Overview

Catalog #	p1575-19
Host Species	Rabbit Polyclonal
Format	Antigen Affinity Purified from Pooled Serum
Applications	WB 1:1000
Species Tested	Mouse, Rat
Expected Reactivity	Bovine, Zebrafish
Immunogen	Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser19 of rat tryptophan hydroxylase 2 (TPH2), conjugated to keyhole limpet hemocyanin (KLH).
Molecular Weight	55 kDa
Cite this Antibody	PhosphoSolutions Cat# p1575-19, RRID:AB_2492272

Images



Western blot of recombinant tryptophan hydroxylase incubated in the absence (-) and presence (+) of Ca^{2+}/calmodulin dependent kinase II showing specific immunolabeling of the ~55 kDa tryptophan hydroxylase protein phosphorylated at Ser^{19}.

Details

Target 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 Ca2+/calmodulin kinase II (CaM K II) (Jiang et al., 2000; Johansen et al., 1996). CaM K II phosphorylates Ser-19 which lies within the regulatory domain of TPH2 (McKinney et al., 2005).
Specificity	Specific for endogenous levels of the ~55 kDa tryptophan hydroxylase protein phosphorylated at Ser19 .
Production/Purification	Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.
Quality Control	Western blots performed on each lot.
Buffer	10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol.
Storage	Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol.
Stability	After date of receipt, stable for at least 1 year at -20°C.

Significant Citations

Kuhn, D.M., Sakowski, S.A., Geddes, T.J., Wilkerson, C. and Haycock, J.W., 2007. Phosphorylation and activation of tryptophan hydroxylase 2: identification of serine-19 as the substrate site for calcium, calmodulin-dependent protein kinase II. *Journal of Neurochemistry*, 103(4), pp.1567-1573.

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