

Phospho-Ser260 Tryptophan Hydroxylase Antibody
Affinity purified rabbit polyclonal antibody
Catalog # AN1174

Specification

Phospho-Ser260 Tryptophan Hydroxylase Antibody - Product Information

Application	WB
Primary Accession	P09810
Reactivity	Human, Rat
Predicted	Bovine, Chicken, Mouse, Zebrafish
Host	Rabbit
Clonality	polyclonal
Calculated MW	55 KDa

Phospho-Ser260 Tryptophan Hydroxylase Antibody - Additional Information

Gene ID	24848
Gene Name	TPH1
Other Names	
Tryptophan 5-hydroxylase 1, Tryptophan 5-monooxygenase 1, Tph1, Tph	

Target/Specificity

Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser260 conjugated to KLH.

Dilution

WB~~ 1:1000

Format

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

Antibody Specificity

Specific for the ~55k tryptophan hydroxylase protein phosphorylated at Ser260.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Phospho-Ser260 Tryptophan Hydroxylase Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping

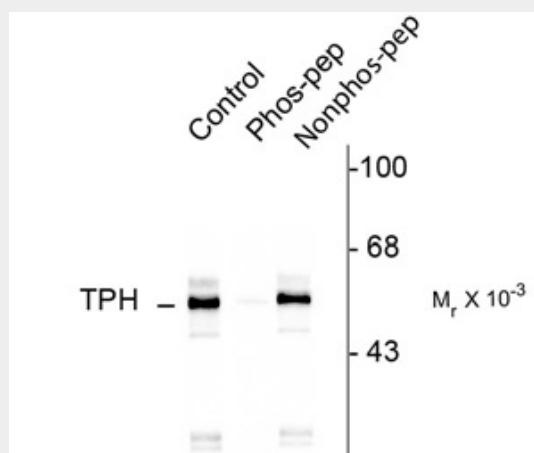
Blue Ice

Phospho-Ser260 Tryptophan Hydroxylase Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Phospho-Ser260 Tryptophan Hydroxylase Antibody - Images



Western blot of rat brainstem lysate showing specific immunolabeling of the ~55k TPH protein phosphorylated at Ser260. The labeling is specifically blocked by the phosphopeptide (Phos-pep) used as antigen. The corresponding non-phosphopeptide (Nonphos-pep) did not block the immunolabeling.

Phospho-Ser260 Tryptophan Hydroxylase Antibody - Background

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 Ser260 which lies within the regulatory domain of TPH (Jiang et al., 2000).

Phospho-Ser260 Tryptophan Hydroxylase Antibody - References

- Jiang GC, Yohrling GJ, Schmitt JD, Vrana KE (2000) Identification of substrate orienting and phosphorylation sites within tryptophan hydroxylase using homology-based molecular modeling. *J Mol Biol* 302:1005-1017.
- Johansen PA, Jennings I, Cotton RG, Kuhn DM (1996) Phosphorylation and activation of tryptophan hydroxylase by exogenous protein kinase A. *J Neurochem* 66:817-823.
- Martinez A, Knappskog PM, Haavik J (2001) Structural approach into human tryptophan hydroxylase and its implications for the regulation of serotonin biosynthesis. *Curr Med Chem* 8:1077-1091.