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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

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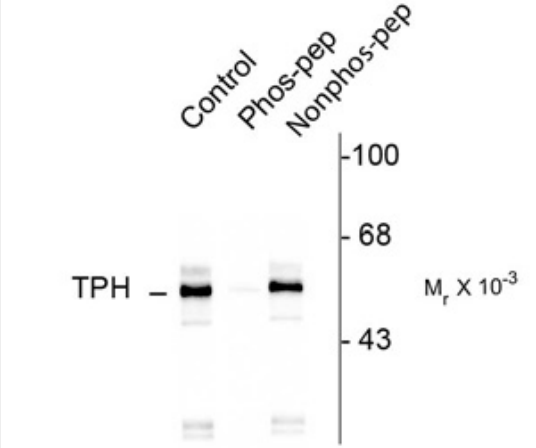
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- 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.