

**DESCRIPTION**

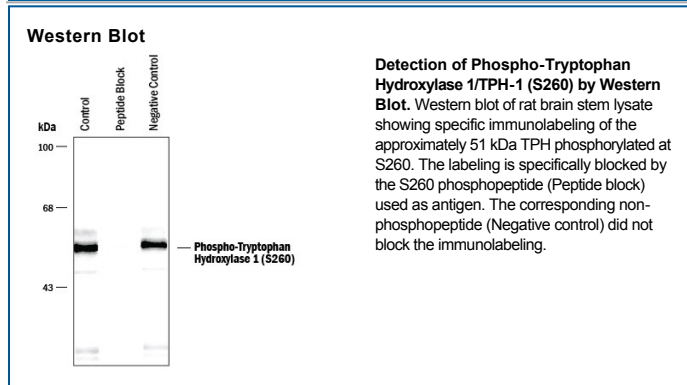
<b>Species Reactivity</b>	Human/Mouse/Rat/ <i>Xenopus</i>
<b>Specificity</b>	Human, mouse, rat, and <i>Xenopus</i> ~51 kDa TPH phosphorylated at S260 in Western blots.
<b>Source</b>	Polyclonal Rabbit IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Phosphopeptide corresponding to amino acid residues surrounding the phospho-S260 of Tryptophan Hydroxylase 1/TPH-1
<b>Formulation</b>	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. See Certificate of Analysis for details.

**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1:1000 dilution	See Below

**DATA**



**PREPARATION AND STORAGE**

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

**BACKGROUND**

Tryptophan hydroxylase (TPH) is a 51 kDa, 444 amino acid (aa) enzyme that belongs to the pterin-dependent, aromatic amino-acid hydroxylase family. It is found in peripheral tissues and pineal gland, and catalyzes the rate-limiting step in serotonin generation from L-tryptophan. The molecule contains two domains, an N-terminal regulatory domain (aa 1-110) and a C-terminal catalytic domain (aa 111-444) that contains an iron atom. TPH is constitutively active but unstable. Phosphorylation by CaMPKII occurs at S58 and S260. The effects on activity are unclear. PKA phosphorylation at S58 stabilizes the enzyme and increases its activity by 25%. This action is complemented by 14-3-3 proteins that physically interact with phosphorylated TPH to increase both its stability and activity by another 15%, to 45% of baseline. Presumably, CaMPKII activity at S58 would have the same effect. An equivalent situation has not been reported for S260. One splice variant of TPH is known. It occurs at the extreme C-terminus where there is a 29 aa substitution for the last seven amino acids. This may generate a more stable enzyme.

**References:**

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2. Wang, G-A. *et al.* (1998) *J. Neurochem.* **71**:1769.
3. Kumer, S.C. *et al.* (1997) *J. Neurochem.* **69**:1738.
4. Wang, L. *et al.* (2002) *Biochemistry* **41**:12569.
5. Banik, U. *et al.* (1997) *J. Biol. Chem.* **272**:26219.
6. Jiang, G. *et al.* (2000) *J. Mol. Biol.* **302**:1005.