

# Product Information



## Tryptophan Hydroxylase Polyclonal Antibody

Item No. 10009396

<b>Synonym:</b>	TPH
<b>Supplied as:</b>	100 µl affinity-purified antibody in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol
<b>Host:</b>	Sheep
<b>Antigen:</b>	Recombinant rabbit TPH
<b>Cross Reactivity:</b>	(+) Human and rat TPH; expected to react with other mammals; (-) rabbit TPH
<b>Stability:</b>	≥1 year at -20°C
<b>Applications:</b>	The recommended starting dilution for western blot and immunohistochemistry (frozen sections) is 1:1,000.

Tryptophan hydroxylase (TPH) catalyzes the first step in the biosynthesis of serotonin and melatonin.<sup>1</sup> Thus, expression of TPH can be used as an indicator of the localization of serotonin and melatonin in brain. 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.<sup>2</sup> 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.<sup>1</sup>

### References

1. Martinez, A., Knappskog, P.M., and Haavik, J. A structural approach into human tryptophan hydroxylase and its implications for the regulation of serotonin biosynthesis. *Curr. Med. Chem.* **8**, 1077-1091 (2001).
2. Haycock, J.W., Kumer, S.C., Lewis, D.A., *et al.* A monoclonal antibody to tryptophan hydroxylase: Applications and identification of the epitope. *J. Neurosci. Meth.* **114**, 205-212 (2002).

### Related Products

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### Cayman Chemical

**Mailing address**  
1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

**Phone**  
(800) 364-9897  
(734) 971-3335

**Fax**  
(734) 971-3640

**E-Mail**  
custserv@caymanchem.com

**Web**  
[www.caymanchem.com](http://www.caymanchem.com)

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#### MATERIAL SAFETY DATA

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