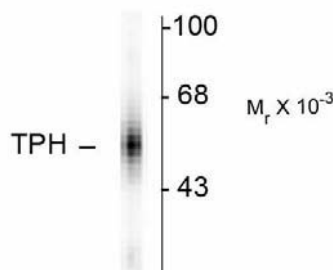


Pel-Freez[®]**Product Specifications****Anti-Tryptophan Hydroxylase****Size:** 100 µl**Product Description:** Affinity purified sheep polyclonal antibody**Applications:** **WB:** 1:1000 **IHC** (frozen sections, Haycock et al., 2002):
1:1000**Antigen:** Recombinant rabbit tryptophan hydroxylase, isolated as inclusion bodies from *E. coli* and purified by preparative SDS-PAGE.**Species reactivity:** The antibody has been directly tested for reactivity in Western blots with human and rat tissue. Based upon the relatively high degree of homology of tryptophan hydroxylase, the antibodies should cross-react with other mammalian species. Does not recognize TPH in rabbit tissues.**Biological Significance:** Tryptophan hydroxylase (TPH) catalyzes the first step in the biosynthesis of serotonin and melatonin (Martinez et al., 2001). 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 (Haycock et al., 2002). 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 (Martinez et al., 2001).**Anti-Tryptophan Hydroxylase**

Western blot of human dorsal Raphe nucleus showing specific immunolabeling of the ~55k tryptophan hydroxylase protein.

Purification Method: Prepared from sheep serum by affinity purification using a column to which the recombinant protein was coupled.

Antibody Specificity: Specific for the ~55k tryptophan hydroxylase protein.

Quality Control Tests: Western blots performed on each lot.

Reference:

Haycock JW, Kumer SC, Lewis DA, Vrana KE, Stockmeier CA (2002) A monoclonal antibody to tryptophan hydroxylase: applications and identification of the epitope. *J Neurosci Methods* 114:205-212.

Martinez A, Knappskog PM, Haavik J (2001) A structural approach into human tryptophan hydroxylase and its implications for the regulation of serotonin biosynthesis. *Curr Med Chem* 8:1077-1091.