**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for AP23653PU-N

## Tryptophan 5 hydroxylase 2 (TPH2) Goat Polyclonal Antibody

### Product data:

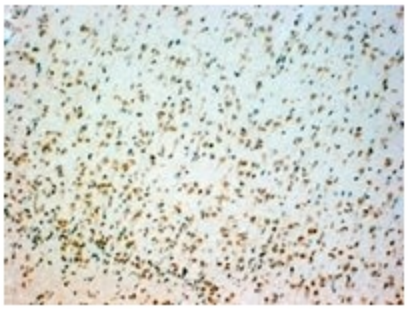
| | |
|---|---|
| **Product Type:** | Primary Antibodies |
| **Applications:** | ELISA, IHC |
| **Recommended Dilution:** | **Peptide ELISA:** Detection Limit: 1/16000.<br>**Western Blot:** Preliminary experiments in human brain lysates gave no specific signal but low background (at antibody concentration up to 1µg/ml).<br>**Immunohistochemistry on Paraffin Sections:** 4-6 µg/ml.<br>In Paraffin Embedded Human Brain Stem shows layered neuronal staining. |
| **Reactivity:** | Canine, Human, Bovine, Porcine |
| **Host:** | Goat |
| **Clonality:** | Polyclonal |
| **Immunogen:** | Peptide with sequence from the internal region of the protein sequence according to NP_775489.2. |
| **Specificity:** | Recognizes Tryptophan hydroxylase 2 / TPH2 |
| **Formulation:** | Tris saline, pH 7.3 containing 0.02% Sodium Azide as preservative and 0.5% BSA as stabilizer.<br>State: Aff - Purified<br>State: Liquid purified IgG fraction |
| **Concentration:** | lot specific |
| **Purification:** | Ammonium Sulphate Precipitation followed by antigen Affinity Chromatography using the immunizing peptide. |
| **Conjugation:** | Unconjugated |
| **Storage:** | Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.<br>Avoid repeated freezing and thawing. |
| **Stability:** | Shelf life: one year from despatch. |
| **Gene Name:** | tryptophan hydroxylase 2 |
| **Database Link:** | Entrez Gene 121278 Human<br>Q8IWU9 |

View online »

**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 Ser19 which lies within the regulatory domain of TPH2 (McKinney et al., 2005).

**Synonyms:** Tryptophan 5-monooxygenase 2, Neuronal tryptophan hydroxylase, NTPH

## Product images:



TPH2 antibody staining of Paraffin Embedded Human Brain Stem at 4 ug/ml. Steamed antigen retrieval with citrate buffer pH 6, HRP-staining.