

**Datasheet for 600-401-C97****Tryptophan Hydroxylase 1 phospho S58 Antibody****Overview**

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| <b>Description:</b>  | Anti-Tryptophan Hydroxylase 1 pS58 (RABBIT) Antibody - 600-401-C97 |
| <b>Item No.:</b>     | 600-401-C97                                                        |
| <b>Size:</b>         | 100 µL                                                             |
| <b>Applications:</b> | WB                                                                 |
| <b>Reactivity:</b>   | Rabbit                                                             |
| <b>Host Species:</b> | Rabbit                                                             |

**Product Details**

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <b>Background:</b>   | Tryptophan Hydroxylase pS58 Antibody detects phosphorylated Tryptophan Hydroxylase protein. Tryptophan hydroxylase (TPH) catalyzes the 5-hydroxylation of tryptophan, which is the first step in the biosynthesis of indoleamines (serotonin and melatonin). 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 Ca <sup>2+</sup> /calmodulin kinase II (CaM K II). Both PKA and CaM K II phosphorylate Ser58 which lies within the regulatory domain of TPH. |
| <b>Synonyms:</b>     | Tryptophan 5-hydroxylase 1, Tryptophan 5-monooxygenase 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Host Species:</b> | Rabbit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Clonality:</b>    | Polyclonal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Format:</b>       | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Target Details**

|                         |                 |
|-------------------------|-----------------|
| <b>Gene Name:</b>       | Tph1            |
| <b>Reactivity:</b>      | Rabbit          |
| <b>PTM Specificity:</b> | Phosphorylation |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Immunogen Type:</b>     | Conjugated Peptide                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Immunogen:</b>          | Anti-Tryptophan Hydroxylase pS58 Antibody was produced by repeated immunizations with a synthetic phospho-peptide corresponding to amino acid residues surrounding Ser58.                                                                                                                                                                                                                                                         |
| <b>Purity/Specificity:</b> | Anti-Tryptophan Hydroxylase pS58 Antibody is directed against phosphorylated rat Tryptophan Hydroxylase protein. The antibody was affinity purified from monospecific antiserum by immunoaffinity purification and is specific for the phosphorylated protein. Reactivity is expected from the following species based on 100% sequence homology: bovine, chicken, human, mouse, non-human primate, rat, xenopus, and zebra fish. |
| <b>Relevant Links:</b>     | <ul style="list-style-type: none"><li>• <a href="#">NCBI - 1094104.1</a></li><li>• <a href="#">UniProtKB - P09810</a></li><li>• <a href="#">GeneID - 24848</a></li></ul>                                                                                                                                                                                                                                                          |

## Application Details

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| <b>Tested Applications:</b> | WB                                                                                                                                                                                                                                                                                                                                  |
| <b>Application Note:</b>    | Anti-Tryptophan Hydroxylase pS58 (Rabbit) antibody is tested for use in Western Blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band of approximately 55 kDa in size corresponding to tryptophan hydroxylase proteins phosphorylated at Ser58 in the appropriate cell lysate or extract. |
| <b>Assay Dilutions:</b>     | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.                                                                                                                                                                                                                                     |
| <b>WB:</b>                  | 1:1000                                                                                                                                                                                                                                                                                                                              |

## Formulation

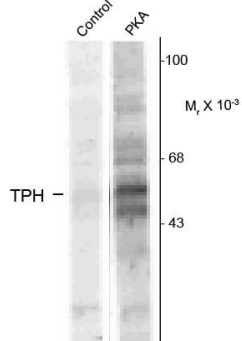
|                        |                                                                                  |
|------------------------|----------------------------------------------------------------------------------|
| <b>Physical State:</b> | Liquid                                                                           |
| <b>Buffer:</b>         | 0.01 M HEPES, 0.15 M Sodium Chloride, pH 7.5                                     |
| <b>Stabilizer:</b>     | 0.1 mg/ml Bovine Serum Albumin (BSA) - IgG and Protease free, 50% (v/v) Glycerol |

## Shipping & Handling

|                            |                                                                                                                                                                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping Condition:</b> | Dry Ice                                                                                                                                                                                                                                       |
| <b>Storage Condition:</b>  | Store vial at -20° C prior to opening. This product is stable at 4° C as an undiluted liquid. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use. |
| <b>Expiration:</b>         | Expiration date is one (1) year from date of receipt.                                                                                                                                                                                         |

## Images

### Anti-Phospho-Ser<sup>58</sup> Tryptophan Hydroxylase



Western blot of recombinant tryptophan hydroxylase in bacterial lysate incubated in the absence and presence of PKA showing phosphospecific immunolabeling of ~55k protein phosphorylated at Ser<sup>58</sup>.

### Western Blot

Western Blot of Rabbit anti-Tryptophan Hydroxylase Ser58 antibody. Lane 1: Recombinant tryptophan hydroxylase incubated in the absence of cAMP-dependent protein kinase (Control). Lane 2: Recombinant tryptophan hydroxylase incubated in the presence of cAMP-dependent protein kinase (PKA). Load: 10 µg per lane. Primary antibody: Tryptophan Hydroxylase Ser58 antibody at 1:1,000 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 53 kDa for Tryptophan Hydroxylase Ser58. Other band(s): Tryptophan Hydroxylase Ser58 splice variants and isoforms.

## Disclaimer

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