Anti-TPH2 Antibody [PSH04-89]

HA722195

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Mouse, Rat
Applications:	WB, IHC-P, IHC-Fr, IP
Molecular Wt:	Predicted band size: 56 kDa
Clone number:	PSH04-89

Description: Tryptophan hydroxylase 2 (TPH2) is an isozyme of tryptophan hydroxylase found in vertebrates. In humans, TPH2 is primarily expressed in the serotonergic neurons of the brain, with the highest expression in the raphe nucleus of the midbrain. Until the discovery of TPH2 in 2003, serotonin levels in the central nervous system were believed to be regulated by serotonin synthesis in peripheral tissues, in which tryptophan hydroxylase is the dominant form.

Immunogen: Recombinant protein.

Positive control: Mouse hippocampus tissue lysate, mouse brain tissue lysate, rat brain tissue lysate, rat hippocampus tissue lysate, mouse midbrain tissue, mouse cerebrum tissue, rat cerebrum tissue, mouse brain (raphe nucleus) tissue.

Subcellular location: Cytosol, neuron projection.

Database links: SwissProt: Q8CGV2 Mouse | Q8CGU9 Rat

Recommended Dilutions:

WB	1:1,000-1:2,000
IHC-P	1:500
IHC-Fr	1:200
IP	1-2μg/sample

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

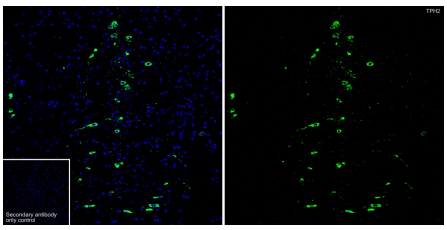

Fig1: Immunofluorescence analysis of frozen mouse brain (raphe nucleus) tissue with Rabbit anti-TPH2 antibody (HA722195) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA722195, green) at 1/500 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

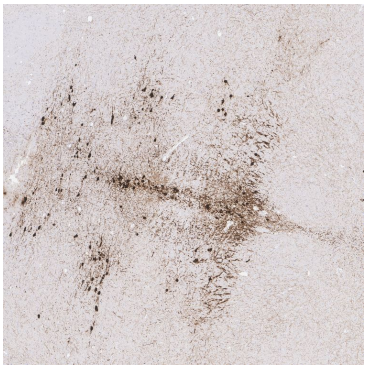

Fig2: Immunohistochemical analysis of paraffin-embedded mouse midbrain tissue with Rabbit anti-TPH2 antibody (HA722195) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722195) at 1/500 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

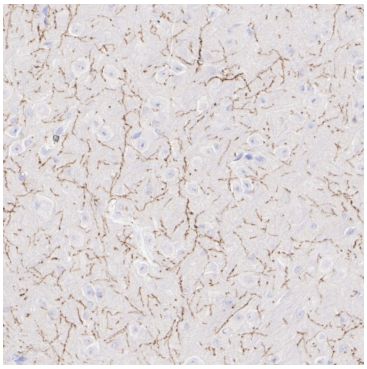

Fig3: Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue with Rabbit anti-TPH2 antibody (HA722195) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722195) at 1/500 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

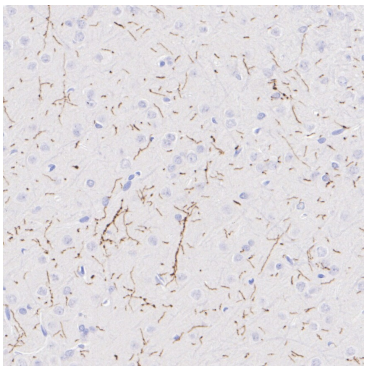

Fig4: Immunohistochemical analysis of paraffin-embedded rat cerebrum tissue with Rabbit anti-TPH2 antibody (HA722195) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722195) at 1/500 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

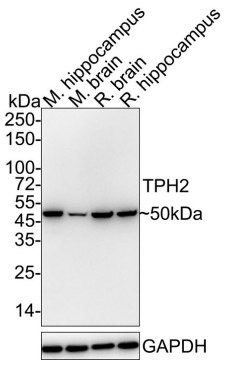

Fig5: Western blot analysis of TPH2 on different lysates with Rabbit anti-TPH2 antibody (HA722195) at 1/1,000 dilution.

Lane 1: Mouse hippocampus tissue lysate (30 µg/Lane)
Lane 2: Mouse brain tissue lysate (30 µg/Lane)
Lane 3: Rat brain tissue lysate (30 µg/Lane)
Lane 4: Rat hippocampus tissue lysate (30 µg/Lane)

Predicted band size: 56 kDa
Observed band size: 50 kDa

Exposure time: 1 minute 18 seconds; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722195) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

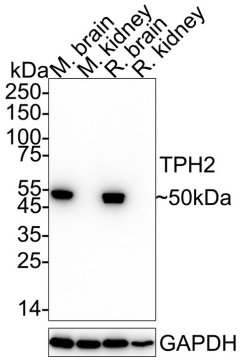

Fig6: Western blot analysis of TPH2 on different lysates with Rabbit anti-TPH2 antibody (HA722195) at 1/2,000 dilution.

Lane 1: Mouse brain tissue lysate
Lane 2: Mouse kidney tissue lysate (negative)
Lane 3: Rat brain tissue lysate
Lane 4: Rat kidney tissue lysate (negative)

Lysates/proteins at 20 µg/Lane.

Predicted band size: 56 kDa
Observed band size: 50 kDa

Exposure time: 1 minute 2 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722195) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

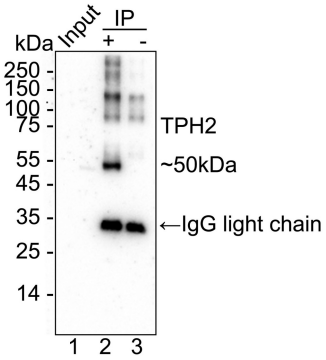

Fig7: TPH2 was immunoprecipitated from 0.2 mg rat brain tissue lysate with HA722195 at 2 µg/25 µl agarose. Western blot was performed from the immunoprecipitate using HA722195 at 1/1,000 dilution. Anti-Rabbit IgG for IP Nano-secondary antibody (NBI01H) at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: rat brain tissue lysate (input)
Lane 2: HA722195 IP in rat brain tissue lysate
Lane 3: Rabbit IgG instead of HA722195 in rat brain tissue lysate

Blocking/Dilution buffer: 5% NFDM/TBST
Exposure time: 3 minutes; ECL: K1801

Background References

1. Zaniewska M et al. Tph2 Gene Expression Defines Ethanol Drinking Behavior in Mice. Cells. 2022 Mar
2. Liu H et al. TPH2 in the Dorsal Raphe Nuclei Regulates Energy Balance in a Sex-Dependent Manner. Endocrinology. 2021 Jan