Anti-Tyrosine Hydroxylase Antibody [SN59-03] - BSA and Azide free

HA750243

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat, Cynomolgus monkey
Applications:	WB, IF-Cell, IHC-P, FC, IF-Tissue, IHC-Fr
Molecular Wt:	Predicted band size: 59 kDa
Clone number:	SN59-03

Description: Tyrosine hydroxylase or tyrosine 3-monooxygenase is the enzyme responsible for catalyzing the conversion of the amino acid L-tyrosine to L-3,4-dihydroxyphenylalanine (L-DOPA). It does so using molecular oxygen (O2), as well as iron (Fe2+) and tetrahydrobiopterin as cofactors. L-DOPA is a precursor for dopamine, which, in turn, is a precursor for the important neurotransmitters norepinephrine (noradrenaline) and epinephrine (adrenaline). Tyrosine hydroxylase catalyzes the rate limiting step in this synthesis of catecholamines. In humans, tyrosine hydroxylase is encoded by the TH gene, and the enzyme is present in the central nervous system (CNS), peripheral sympathetic neurons and the adrenal medulla. Tyrosine hydroxylase, phenylalanine hydroxylase and tryptophan hydroxylase together make up the family of aromatic amino acid hydroxylases (AAAHs).

Immunogen: Synthetic peptide within C-terminal human Tyrosine Hydroxylase.

Positive control: Rat brain tissue lysates, PC-12 cell lysates, N2A, SH-SY5Y, mouse brain tissue, rat brain tissue.

Subcellular location: Cytoplasm.

Database links: SwissProt: P07101 Human | P24529 Mouse | P04177 Rat

Storage Buffer: 1*PBS (pH7.4).

Storage Instruction: Store at 2-8℃. Avoid freeze.

Purity: Protein A affinity purified.

Images

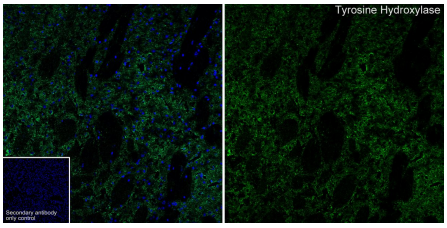

Fig1: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Immunofluorescence analysis of frozen mouse brain tissue with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/200 dilution.

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 (ET1611-12, green) at 1/200 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).

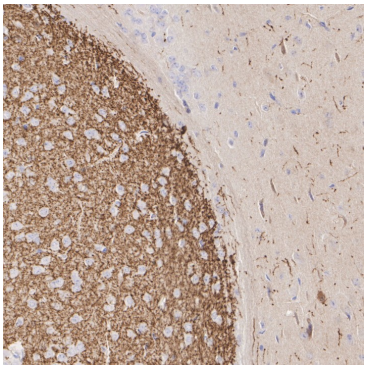

Fig2: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/2,000 dilution.

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 (ET1611-12) at 1/2,000 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.

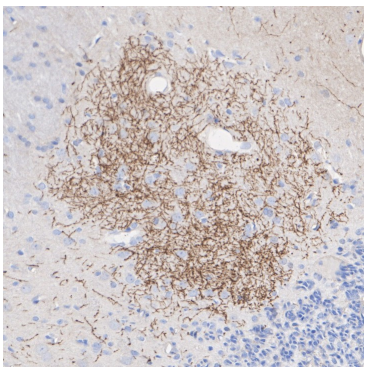

Fig3: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/2,000 dilution.

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 (ET1611-12) at 1/2,000 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.

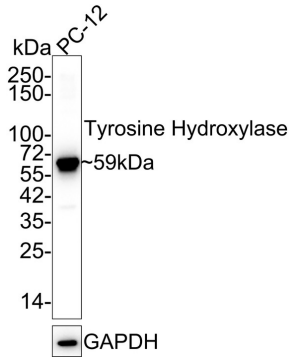

Fig4: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Western blot analysis of Tyrosine Hydroxylase on PC-12 cell lysates with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/2,000 dilution.

Lysates/proteins at 15 µg/Lane.

Predicted band size: 59 kDa
Observed band size: 59 kDa

Exposure time: 24 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 (ET1611-12) 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.

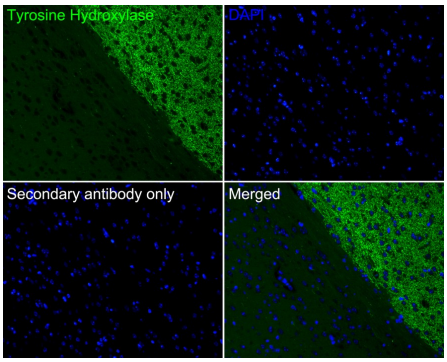

Fig5: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Immunofluorescence analysis of paraffin-embedded mouse brain tissue labeling Tyrosine Hydroxylase with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/200 dilution.

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 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (ET1611-12, green) at 1/200 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).

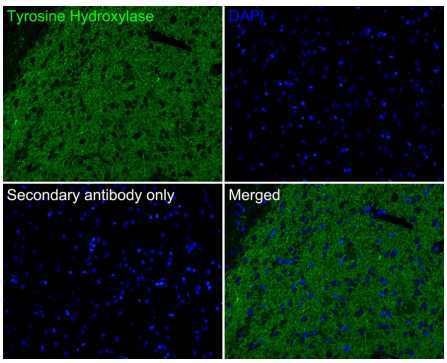

Fig6: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Immunofluorescence analysis of paraffin-embedded rat brain tissue labeling Tyrosine Hydroxylase with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/200 dilution.

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 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (ET1611-12, green) at 1/200 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).

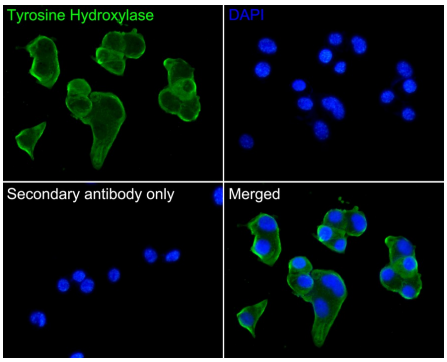

Fig7: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Immunocytochemistry analysis of N2A cells labeling Tyrosine Hydroxylase with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/50 dilution.

Cells were fixed in 4% paraformaldehyde for 10 minutes at 37 ℃, permeabilized with 0.05% Triton X-100 in PBS for 20 minutes, and then blocked with 2% negative goat serum for 30 minutes at room temperature. Cells were then incubated with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/50 dilution in 2% negative goat serum overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

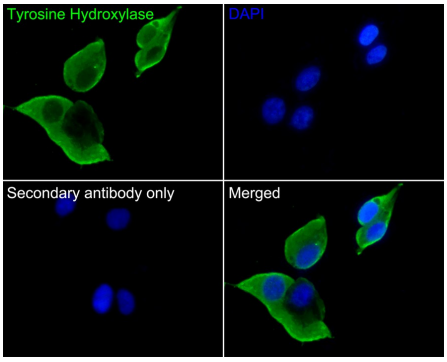

Fig8: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Immunocytochemistry analysis of SH-SY5Y cells labeling Tyrosine Hydroxylase with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/50 dilution.

Cells were fixed in 4% paraformaldehyde for 10 minutes at 37 ℃, permeabilized with 0.05% Triton X-100 in PBS for 20 minutes, and then blocked with 2% negative goat serum for 30 minutes at room temperature. Cells were then incubated with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/50 dilution in 2% negative goat serum overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

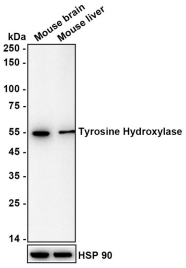

Fig9: This data was developed using ET1611-12, the same antibody clone in a different buffer formulation.
Western blot analysis of Tyrosine Hydroxylase on different lysates with Rabbit anti-Tyrosine Hydroxylase antibody (ET1611-12) at 1/2,000 dilution.

Lane 1: Mouse brain tissue lysate
Lane 2: Rat brain tissue lysate

Lysates/proteins at 20 µg/Lane.
Exposure time: 3 minutes; ECL: K1801

Blocking: 5% NFDM/TBST, 1 hour at room temperature
Primary antibody: ET1611-12, 1/2,000 in 5% NFDM/TBST, overnight at 4 ℃
Secondary antibody: Goat anti-Rabbit IgG-HRP (HA1001), 1/50,000 in 5% NFDM/TBST, 1 hour at room temperature

Predicted band size: 59 kDa
Observed band size: 55 kDa

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. De Miranda BR et al. Novel para-phenyl substituted diindolylmethanes protect against MPTP neurotoxicity and suppress glial activation in a mouse model of Parkinson's disease. Toxicol Sci 143:360-73 (2015).
2. Park J et al. Pain perception in acute model mice of Parkinson's disease induced by 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP). Mol Pain 11:28 (2015).