Dopamine Transporter Recombinant Antibody [PSH10-49] - Rat IgG1 (Chimeric)

HA601404

Product Type:	Recombinant Chimeric Antibody, primary antibodies
Species reactivity:	Mouse, Rat, Human, Cynomolgus monkey, Pig
Applications:	IHC-Fr, IHC-P, WB
Molecular Wt:	Predicted band size: 69 kDa.
Clone number:	PSH10-49

Description: The dopamine transporter (also dopamine active transporter, DAT, SLC6A3) is a membrane-spanning protein that pumps the neurotransmitter dopamine out of the synaptic cleft back into cytosol. In the cytosol, other transporters sequester the dopamine into vesicles for storage and later release. Dopamine reuptake via DAT provides the primary mechanism through which dopamine is cleared from synapses, although there may be an exception in the prefrontal cortex, where evidence points to a possibly larger role of the norepinephrine transporter.DAT is implicated in a number of dopamine-related disorders, including attention deficit hyperactivity disorder, bipolar disorder, clinical depression, alcoholism, and substance use disorder. The gene that encodes the DAT protein is located on human chromosome 5, consists of 15 coding exons, and is roughly 64 kbp long. Evidence for the associations between DAT and dopamine related disorders has come from a type of genetic polymorphism, known as a VNTR, in the DAT gene (DAT1), which influences the amount of protein expressed.

Immunogen: Recombinant protein.

Positive control: Mouse striatum tissue, rat striatum tissue, Mouse brain tissue lysate, Rat brain tissue lysate.

Subcellular location: Cell membrane.

Database links: SwissProt: Q61327 Mouse | P23977 Rat

Recommended Dilutions:

IHC-Fr	1:500
IHC-P	1:500-1:2,000
WB	1:2,000

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

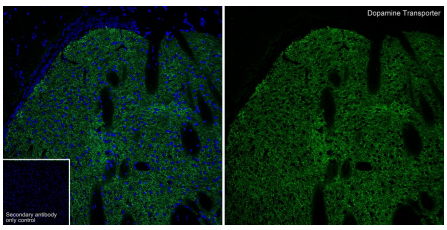

Fig1: Application: IHC-Fr

Species: Mouse

Site: Striatum

Sample: Frozen section

Antibody concentration: 1:500

Antigen retrieval: Not required

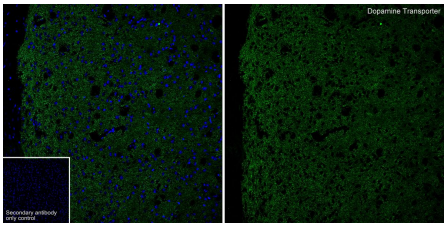

Fig2: Application: IHC-Fr

Species: Mouse

Site: Striatum

Sample: Frozen section

Antibody concentration: 1:500

Antigen retrieval: The section was pre-treated using 1% SDS buffer (in PBS, pH 7.4) for 5 minutes at room temperature.

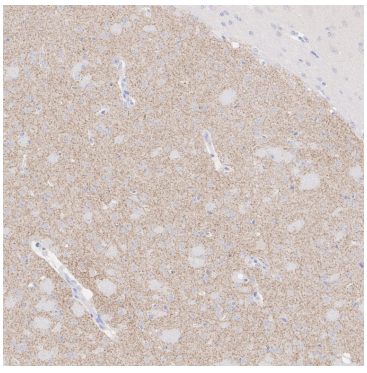

Fig3: Immunohistochemical analysis of paraffin-embedded mouse striatum tissue with Rat anti-Dopamine Transporter antibody (HA601404) at 1/2,000 dilution.

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 (HA601404) 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.

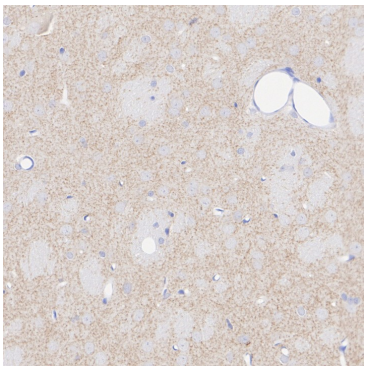

Fig4: Immunohistochemical analysis of paraffin-embedded rat striatum tissue with Rat anti-Dopamine Transporter antibody (HA601404) at 1/500 dilution.

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 (HA601404) 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.

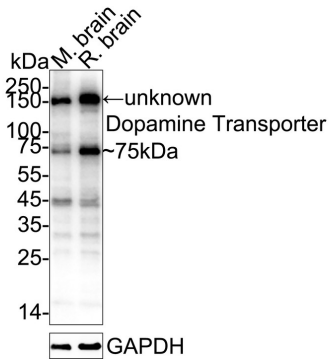

Fig5: Western blot analysis of Dopamine Transporter on different lysates with Rat anti-Dopamine Transporter antibody (HA601404) at 1/2,000 dilution.

Lane 1: Mouse brain tissue lysate (no heat)
Lane 2: Rat brain tissue lysate (no heat)

Notice: no heat means the lysate is not boiled.

Lysates/proteins at 20 µg/Lane.

Predicted band size: 69 kDa
Observed band size: 75 kDa

Exposure time: 4 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 (HA601404) at 1/2,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rat IgG H&L - HRP Secondary Antibody (HA1023) at 1/5,000 dilution was used for 1 hour at room temperature.

Background References

1. Savchenko A et al. Dopamine Transporter Deficient Rodents: Perspectives and Limitations for Neuroscience. Biomolecules. 2023 May
2. Ng J et al. Dopamine Transporter Deficiency Syndrome (DTDS): Expanding the Clinical Phenotype and Precision Medicine Approaches. Cells. 2023 Jun