Anti-Neurogranin Antibody [PSH02-96] - BSA and Azide free

HA750851

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat, Cynomolgus monkey, Pig
Applications:	WB, IHC-P, IF-Tissue, IHC-Fr
Molecular Wt:	Predicted band size: 8 kDa
Clone number:	PSH02-96

Description: Neurogranin is a calmodulin-binding protein expressed primarily in the brain, particularly in dendritic spines, and participating in the protein kinase C signaling pathway. Neurogranin has recently been found in aortic endothelial cells and cardiomyocytes. Neurogranin is the main postsynaptic protein regulating the availability of calmodulin, binding to it in the absence of calcium. Phosphorylation by protein kinase C lowers its binding ability. NRGN gene expression is controlled by thyroid hormones. Human neurogranin consists of 78 amino acids. One study tells of potential link of neurogranin gene to the heightened risk of schizophrenia in males, another study gives evidence of lowered neurogranin immunoreactivity in the brains of people suffering from schizophrenia. Neurogranin concentration in cerebrospinal fluid (CSF) is further discussed as marker for synaptic dysfunction in age-related neurodegeneration. It has also been shown to be specifically increased in patients with Alzheimer's disease. Especially, the ratio of CSF neurogranin trunc P75 and the beta-secretase BACE1 is suggested as a potential marker for cognitive deterioration in the progress of Alzheimer's disease.

Immunogen:	Recombinant protein within human Neurogranin aa 1-78 / 78.
Positive control:	Mouse brain tissue lysate, mouse hippocampus tissue lysate, rat brain tissue lysate, rat hippocampus tissue lysate, rat brain tissue, mouse brain tissue, mouse hippocampus tissue.
Subcellular location:	Axon, cytosol, dendritic spine head, glutamatergic synapse, mitochondrial membrane, neuronal cell body, postsynaptic membrane, trans-Golgi network transport vesicle membrane.
Database links:	SwissProt: Q92686 Human | P60761 Mouse | Q04940 Rat
Recommended Dilutions:	
WB	1:2,000
IHC-P	1:500
IF-Tissue	1:200
IHC-Fr	1:200
Storage Buffer:	PBS (pH7.4).
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

Images

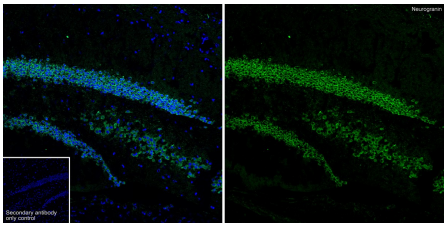

Fig1: Application: IHC-Fr

Species: Mouse

Site: Hippocampus

Sample: Frozen section

Antibody concentration: 1:200

Antigen retrieval: Recommend. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

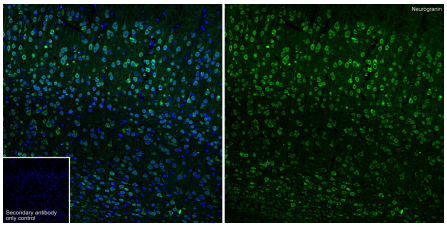

Fig2: Application: IHC-Fr

Species: Mouse

Site: Cerebral cortex

Sample: Frozen section

Antibody concentration: 1:200

Antigen retrieval: Recommend. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

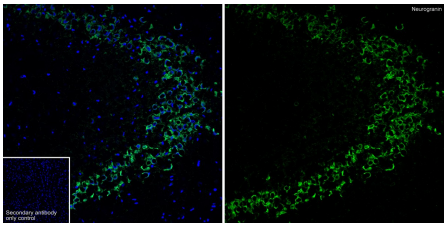

Fig3: Application: IHC-Fr

Species: Rat

Site: Hippocampus

Sample: Frozen section

Antibody concentration: 1:200

Antigen retrieval: Recommend. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

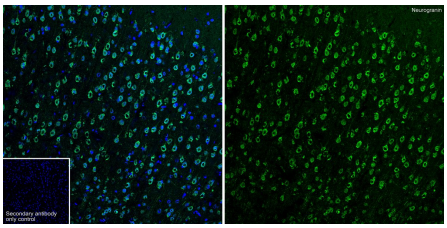

Fig4: Immunofluorescence analysis of frozen rat brain tissue with Rabbit anti-Neurogranin antibody (HA750851) at 1/200 dilution.

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 (HA750851, 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).

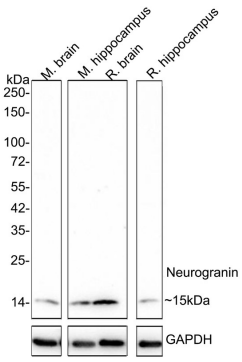

Fig5: Western blot analysis of Neurogranin on different lysates with Rabbit anti-Neurogranin antibody (HA750851) at 1/2,000 dilution.

Lane 1: Mouse brain tissue lysate
Lane 2: Mouse hippocampus tissue lysate
Lane 3: Rat brain tissue lysate
Lane 4: Rat hippocampus tissue lysate

Lysates/proteins at 30 µg/Lane.

Predicted band size: 8 kDa
Observed band size: 15 kDa

Exposure time: 3 minutes;

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 (HA750851) 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.

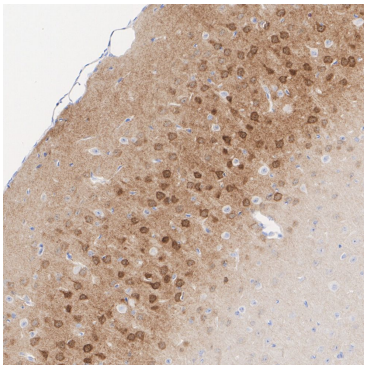

Fig6: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Neurogranin antibody (HA750851) at 1/500 dilution.

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 (HA750851) 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.

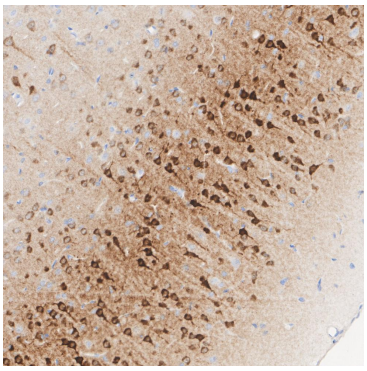

Fig7: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-Neurogranin antibody (HA750851) at 1/500 dilution.

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 (HA750851) 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.

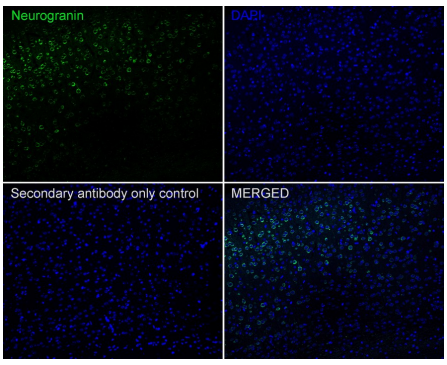

Fig8: Application: IF-tissue

Species: Mouse

Site: Cerebral cortex

Sample: Paraffin-embedded section

Antibody concentration: 1:200

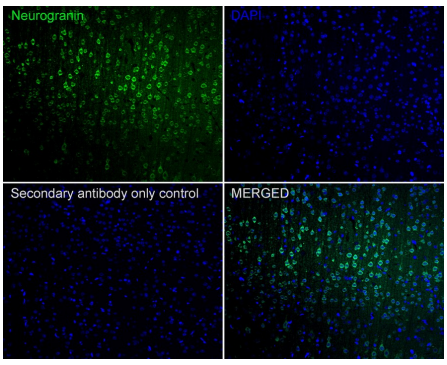

Fig9: Application: IF-tissue

Species: Rat

Site: Cerebral cortex

Sample: Paraffin-embedded section

Antibody concentration: 1:200

Background References

1. Xiang Y et al. Neurogranin: A Potential Biomarker of Neurological and Mental Diseases. Front Aging Neurosci. 2020 Oct
2. Jorgensen AN et al. Neurogranin regulates calcium-dependent cardiac hypertrophy. Exp Mol Pathol. 2022 Aug