Anti-CaV2.3 / CACNA1E Antibody [PSH13-51]

HA723540

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Mouse, Rat
Applications:	IHC-Fr, IHC-P, WB
Molecular Wt:	Predicted band size: 262 kDa
Clone number:	PSH13-51

Description: The R-type calcium channel is a type of voltage-dependent calcium channel. Like the others of this class, the α1 subunit forms the pore through which calcium enters the cell and determines most of the channel's properties. This α1 subunit is also known as the calcium channel, voltage-dependent, R type, alpha 1E subunit (CACNA1E) or Cav2.3 which in humans is encoded by the CACNA1E gene. They are strongly expressed in cortex, hippocampus, striatum, amygdala and interpeduncular nucleus. They are poorly understood, but like Q-type calcium channels, they appear to be present in cerebellar granule cells. They have a high threshold of activation and relatively slow kinetics.

Immunogen: Recombinant protein within human CACNA1E aa 1,964-2,313.

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

Subcellular location: Membrane.

Database links: SwissProt: Q61290 Mouse | Q07652 Rat

Recommended Dilutions:

IHC-Fr	1:500
IHC-P	1:3,000-1:6,000
WB	1:5,000

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

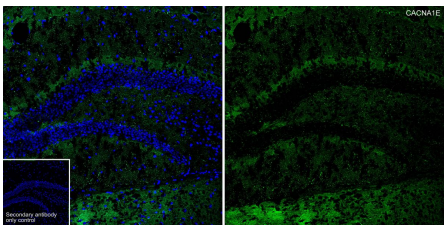

Fig1: Application: IHC-Fr

Species: Mouse

Site: hippocampus

Sample: Frozen section

Antibody concentration: 1/500

Antigen retrieval: Not required

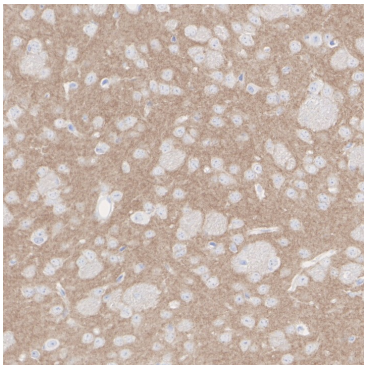

Fig2: Immunohistochemical analysis of paraffin-embedded mouse striatum tissue with Rabbit anti-CaV2.3 / CACNA1E antibody (HA723540) at 1/3,000 dilution.

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 (HA723540) at 1/3,000 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.

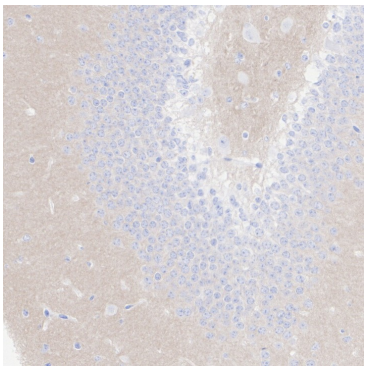

Fig3: Immunohistochemical analysis of paraffin-embedded mouse hippocampus tissue with Rabbit anti-CaV2.3 / CACNA1E antibody (HA723540) at 1/6,000 dilution.

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 (HA723540) at 1/6,000 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.

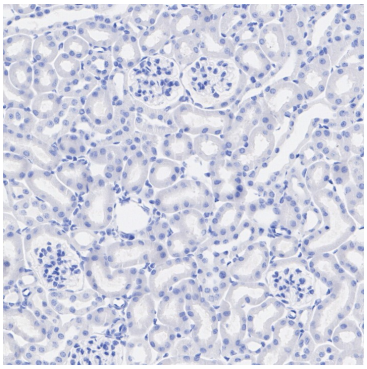

Fig4: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue (negative) with Rabbit anti-CaV2.3 / CACNA1E antibody (HA723540) at 1/3,000 dilution.

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 (HA723540) at 1/3,000 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.

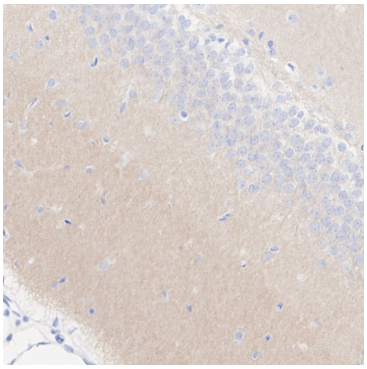

Fig5: Immunohistochemical analysis of paraffin-embedded rat hippocampus tissue with Rabbit anti-CaV2.3 / CACNA1E antibody (HA723540) at 1/6,000 dilution.

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 (HA723540) at 1/6,000 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.

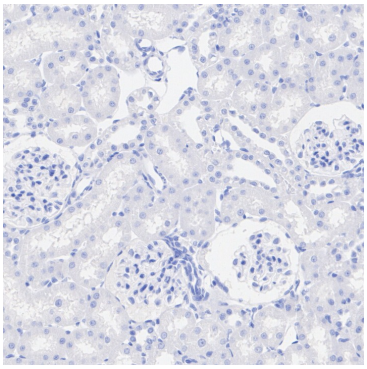

Fig6: Immunohistochemical analysis of paraffin-embedded rat kidney tissue (negative) with Rabbit anti-CaV2.3 / CACNA1E antibody (HA723540) at 1/3,000 dilution.

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 (HA723540) at 1/3,000 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.

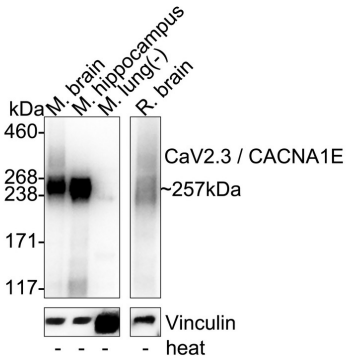

Fig7: Western blot analysis of CaV2.3 / CACNA1E on different lysates with Rabbit anti-CaV2.3 / CACNA1E antibody (HA723540) at 1/5,000 dilution.

Lane 1: Mouse brain tissue lysate (no heat)
Lane 2: Mouse hippocampus tissue lysate (no heat)
Lane 3: Mouse lung tissue lysate (negative) (no heat)
Lane 4: Rat brain tissue lysate (no heat)

Notice: no heat means the lysate is not boiled.

Lysates/proteins at 30 µg/Lane.

Predicted band size: 262 kDa
Observed band size: 257 kDa

Exposure time: 46 seconds; ECL: K1801;

3-8% 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 (HA723540) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Background References

1. Schneider T et al. Cav2.3 R-type calcium channels: from its discovery to pathogenic de novo CACNA1E variants: a historical perspective. Pflugers Arch. 2020 Jul
2. Royer-Bertrand B et al. De novo variants in CACNA1E found in patients with intellectual disability, developmental regression and social cognition deficit but no seizures. Mol Autism. 2021 Oct