Anti-CACNA1C Antibody

ER1803-49

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	Dot Blot, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 249 kDa

Description: Pore-forming, alpha-1C subunit of the voltage-gated calcium channel that gives rise to L-type calcium currents. Mediates influx of calcium ions into the cytoplasm, and thereby triggers calcium release from the sarcoplasm. Plays an important role in excitation-contraction coupling in the heart. Required for normal heart development and normal regulation of heart rhythm. Required for normal contraction of smooth muscle cells in blood vessels and in the intestine. Essential for normal blood pressure regulation via its role in the contraction of arterial smooth muscle cells. Long-lasting (L-type) calcium channels belong to the 'high-voltage activated' (HVA) group (Probable).

Immunogen: Synthetic peptide within mouse CACNA1C aa 802-851 / 2,139.

Positive control: SiHa, SKOV-3, rat brain tissue, human kidney tissue, human uterus tissue, mouse heart tissue.

Subcellular location: Plasma membrane.

Database links: SwissProt: Q13936 Human | Q01815 Mouse | P22002 Rat

Recommended Dilutions:

Dot Blot	1:500-1:1,000
IF-Cell	1:500-1:2,000
IHC-P	1:50-1:200
FC	1:50-1:100

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

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: Immunogen affinity purified.

Images

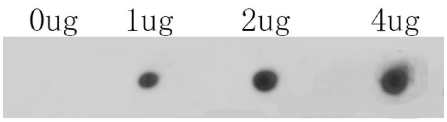

Fig1: Dot blot analysis of anti-CACNA1C on PVDF. 1ug, 2ug and 4ug of immunization peptides were given in this test. Anti-CACNA1C antibody was diluted with 1/500.

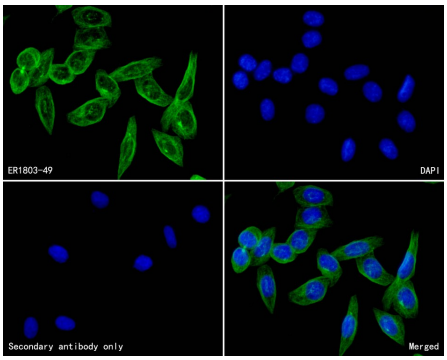

Fig2: ICC staining of CACNA1C in SiHa cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 10% negative goat serum for 15 minutes at room temperature. Cells were probed with the primary antibody (ER1803-49, 1/200) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

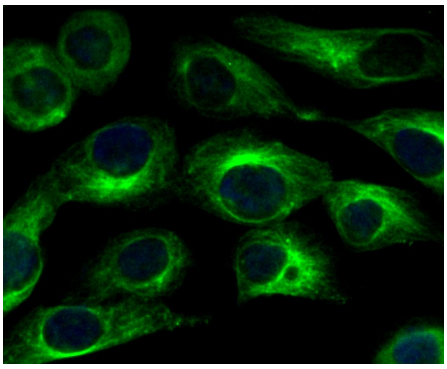

Fig3: ICC staining of CACNA1C in SKOV-3 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 10% negative goat serum for 15 minutes at room temperature. Cells were probed with the primary antibody (ER1803-49, 1/200) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

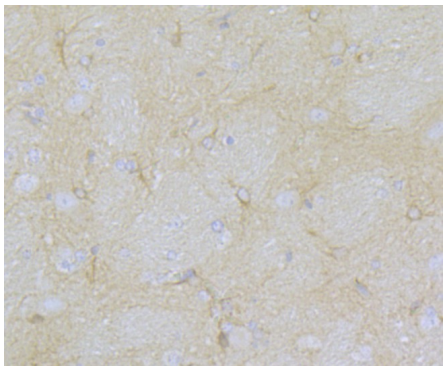

Fig4: Immunohistochemical analysis of paraffin-embedded rat brain tissue using anti-CACNA1C antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER1803-49, 1/50) for 30 minutes 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.

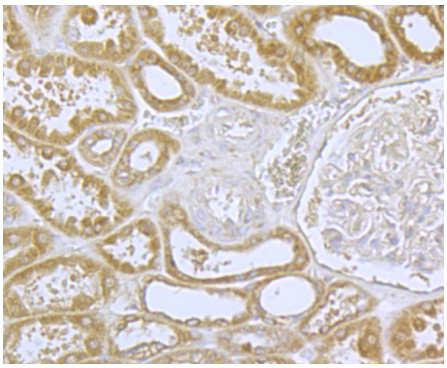

Fig5: Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-CACNA1C antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER1803-49, 1/50) for 30 minutes 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.

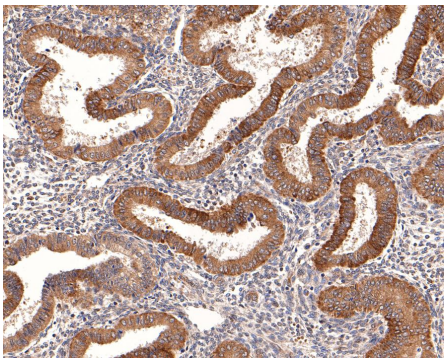

Fig6: Immunohistochemical analysis of paraffin-embedded human uterus tissue with Rabbit anti-CACNA1C antibody (ER1803-49) at 1/600 dilution.

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 (ER1803-49) at 1/600 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.

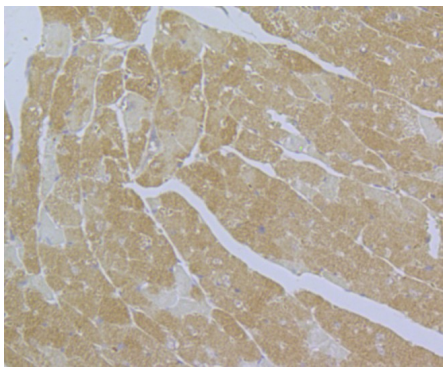

Fig7: Immunohistochemical analysis of paraffin-embedded mouse heart tissue using anti-CACNA1C antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER1803-49, 1/50) for 30 minutes 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.

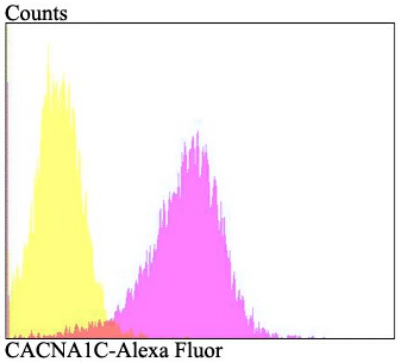

Fig8: Flow cytometric analysis of CACNA1C was done on SKOV-3 cells. The cells were fixed, permeabilized and stained with the primary antibody (ER1803-49, 1/50) (purple). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG Secondary antibody at 1/1,000 dilution for 30 minutes.Unlabelled sample was used as a control (cells without incubation with primary antibody; yellow).

Background References

1. Schultz D et al. Cloning, chromosomal localization, and functional expression of the alpha-1 subunit of the L-type voltage-dependent calcium channel from normal human heart. Proc Natl Acad Sci USA 90:6228-6232 (1993).
2. Soldatov N M et al. Different voltage-dependent inhibition by dihydropyridines of human Ca2+ channel splice variants. J Biol Chem 270:10540-10543 (1995).