Anti-GAP43 Antibody

ER40201

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 25 kDa

Description: GAP43, is a nervous tissue-specific cytoplasmic protein that can be attached to the membrane via a dual palmitoylation sequence on cysteines 3 and 4. This sequence targets GAP43 to lipid rafts. It is a major protein kinase C (PKC) substrate and is considered to play a key role in neurite formation, regeneration, and plasticity. The role of GAP-43 in CNS development is not limited to effects on axons: It is also a component of the centrosome, and differentiating neurons that do not express GAP-43 show mislocalization of the centrosome and mitotic spindles, particularly in neurogenic cell divisions. As a consequence, in the cerebellum, the neuronal precursor pool fails to expand normally and the cerebellum is significantly smaller.

Immunogen: Synthetic peptide within mouse GAP43 aa 178-227 / 227.

Positive control: SH-SY5Y cell lysate, Neuro-2a cell lysate, mouse brain tissue lysate, rat brain tissue lysate, Neuro-2a, rat brain tissue, mouse brain tissue, SH-SY5Y.

Subcellular location: Cell membrane, Cell projection, Cytoplasm, Membrane, Synapse.

Database links: SwissProt: P17677 Human | P06837 Mouse | P07936 Rat

Recommended Dilutions:

WB	1:100,000
IF-Cell	1:200
IHC-P	1:200
FC	1:1,000

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Immunogen affinity purified.

Applications:WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation

Images

Fig1: Western blot analysis of GAP43 on different lysates with Rabbit anti-GAP43 antibody (ER40201) at 1/100,000 dilution.
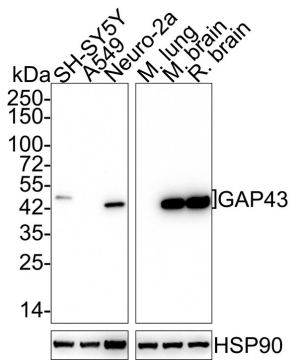
Lane 1: SH-SY5Y cell lysate
Lane 2: A549 cell lysate (negative)
Lane 3: Neuro-2a cell lysate
Lane 4: Mouse lung tissue lysate (negative)
Lane 5: Mouse brain tissue lysate
Lane 6: Rat brain tissue lysate

Lysates/proteins at 20 μg/Lane.

Predicted band size: 25 kDa
Observed band size: 43/45 kDa

Exposure time: 3 minutes 20 seconds;

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 (ER40201) at 1/100,000 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.

Fig2: Immunocytochemistry analysis of Neuro-2a cells labeling GAP43 with Rabbit anti-GAP43 antibody (ER40201) at 1/200 dilution.
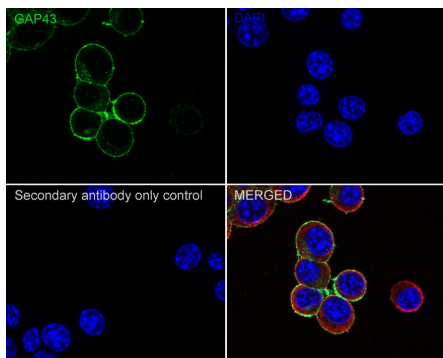
Cells were fixed in 100% precooled methanol for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-GAP43 antibody (ER40201) at 1/200 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit 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.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.
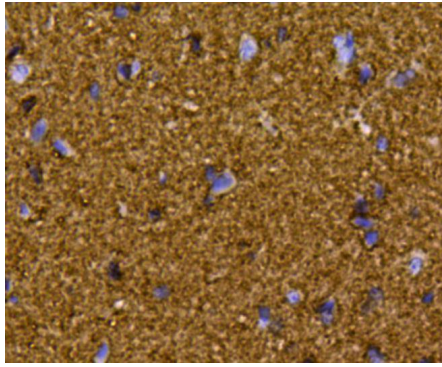
Fig3: Immunohistochemical analysis of paraffin-embedded rat brain tissue using anti-GAP43 antibody. Counter stained with hematoxylin.
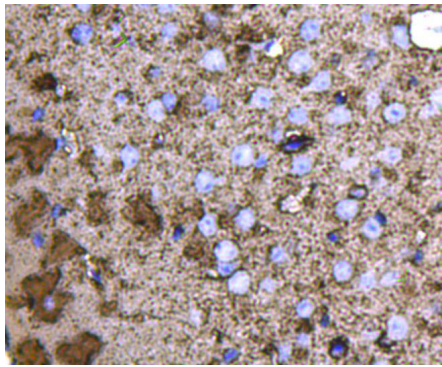

Fig4: Immunohistochemical analysis of paraffin-embedded mouse brain tissue using anti-GAP43 antibody. Counter stained with hematoxylin.
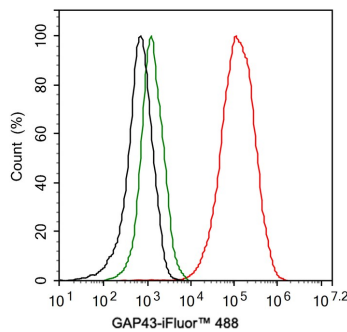

Fig5: Intracellular Flow Cytometry analysis of SH-SY5Y labeling GAP43 with purified ER40201 at 1/1,000 dilution (1 µg/ml) (red).

Cells were fixed with 4% PFA and permeabilised with 90% methanol. Rabbit monoclonal IgG (green) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (black) were used as the unlabeled control. A Goat anti-rabbit IgG iFluor™ 488 (HA1121)(1/1,000 dilution) was used as the secondary antibody.

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

Background References

1. "N-CAM modulates tumour-cell adhesion to matrix by inducing FGF-receptor signalling." Cavallaro U., Niedermeyer J., Fuxa M., Christofori G. Nat. Cell Biol. 3:650-657(2001)

2. "Acyl-protein thioesterase 2 catalyzes the deacylation of peripheral membrane-associated GAP-43." Tomatis V.M., Trenchi A., Gomez G.A., Daniotti J.L. PLoS ONE 5:E15045-E15045(2010)