SANTA CRUZ BIOTECHNOLOGY, INC.

GAP-43 (C-19): sc-7457

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GAP-43 (growth associated protein 43, B-50, PP46, calmodulin-binding protein P-57, neuromodulin, neuron growth-associated protein 43, protein F1) is a crucial component for regenerative response in the nervous system that is present at high levels in neuronal growth cones during development and axonal regeneration. GAP-43 is normally produced by neurons during developmental growth and axonal regeneration, but it is also expressed in specific regions of the normal adult nervous system. The neuron-specific ELAV/Hu family member, HuD, interacts with and stabilizes GAP-43 mRNA in developing neurons and leads to increased levels of GAP-43 protein. Heterozygous GAP-43 knockout mice with GAP-43 levels reduced by one-half display significant memory impairments in cued conditioning or on tests of nociceptive or auditory perception.

CHROMOSOMAL LOCATION

Genetic locus: GAP43 (human) mapping to 3q13.31; Gap43 (mouse) mapping to 16 B4.

SOURCE

GAP-43 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GAP-43 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7457 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GAP-43 (C-19) is recommended for detection of axonal membrane protein GAP-43 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GAP-43 siRNA (h): sc-35446, GAP-43 siRNA (m): sc-35447, GAP-43 shRNA Plasmid (h): sc-35446-SH, GAP-43 shRNA Plasmid (m): sc-35447-SH, GAP-43 shRNA (h) Lentiviral Particles: sc-35446-V and GAP-43 shRNA (m) Lentiviral Particles: sc-35447-V.

Molecular Weight of GAP-43: 43 kDa.

Positive Controls: mouse brain extract: sc-2253, rat cerebellum extract: sc-2398 or GAP-43 (h4): 293T Lysate: sc-175907.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

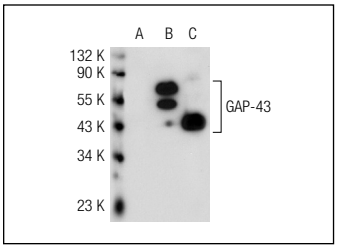
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

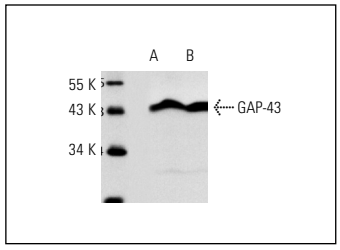
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



GAP-43 (C-19): sc-7457. Western blot analysis of GAP-43 expression in non-transfected: sc-117752 (**A**) and human GAP-43 transfected: sc-175907 (**B**) 293T whole cell lysates and mouse brain tissue extract (**C**).



GAP-43 (C-19): sc-7457. Western blot analysis of GAP-43 expression in rat cerebellum (**A**) and mouse brain (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Wang, X.Y., et al. 2001. Effects of ginsenoside Rg1 on synaptic plasticity of freely moving rats and its mechanism of action. Acta Pharmacol. Sin. 22: 657-662.
2. Pozzi, A.G., et al. 2006. Immunohistochemical localization of vascular endothelial growth factor and its receptor Flk-1 in the amphibian developing principal and accessory olfactory system. Anat. Embryol. 211: 5495-5557.
3. Tan, J., et al. 2006. Aminoglycoside-induced degeneration of adult spiral ganglion neurons involves differential modulation of tyrosine kinase B and p75 neurotrophin receptor signaling. Am. J. Pathol. 169: 528-543.
4. Krejcí, J., et al. 2008. *In vitro* labelling of mouse embryonic stem cells with SPIO nanoparticles. Gen. Physiol. Biophys. 27: 164-173.
5. Marko, S.B., et al. 2008. VEGF promotes vascular sympathetic innervation. Am. J. Physiol. Heart Circ. Physiol. 294: H2646-H2652.
6. Klimmeck, D., et al. 2009. Bestrophin 2: an anion channel associated with neurogenesis in chemosensory systems. J. Comp. Neurol. 515: 585-599.
7. Zhao, Y., et al. 2011. Progesterone influences postischemic synaptogenesis in the CA1 region of the hippocampus in rats. Synapse 65: 880-891.
8. Yan, J.Z., et al. 2011. Protein kinase C promotes N-methyl-D-aspartate (NMDA) receptor trafficking by indirectly triggering calcium/calmodulin-dependent protein kinase II (CaMKII) autophosphorylation. J. Biol. Chem. 286: 25187-25200.