SANTA CRUZ BIOTECHNOLOGY, INC.

GAP-43 (H-100): sc-10786

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 (H-100) is a rabbit polyclonal antibody raised against amino acids 1-100 mapping at the N-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.

Available as agarose conjugate for immunoprecipitation, sc-10786 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

GAP-43 (H-100) 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).

GAP-43 (H-100) is also recommended for detection of axonal membrane protein GAP-43 in additional species, including canine, bovine and porcine.

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: GAP-43 (h4): 293T Lysate: sc-175907, rat cerebellum extract: sc-2398 or rat brain extract: sc-2392.

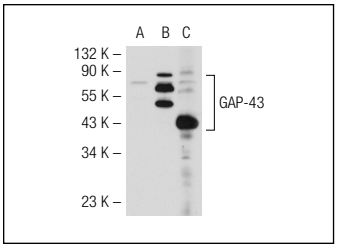
STORAGE

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

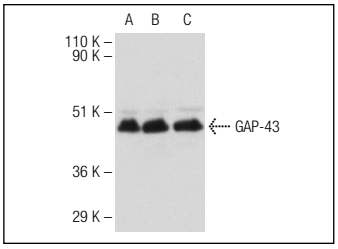
RESEARCH USE

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

DATA



GAP-43 (H-100): sc-10786. 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 (H-100): sc-10786. Western blot analysis of GAP-43 expression in rat cerebellum (**A**), rat brain (**B**) and mouse brain (**C**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Yang, C.L., et al. 2005. Gene expression profiling of the ageing rat vibrissa follicle. Br. J. Dermatol. 153: 22-28.
2. Murakami, M., et al. 2010. ATRA inhibits ceramide kinase transcription in a human neuroblastoma cell line, SH-SY5Y cells: the role of COUP-TFI. J. Neurochem. 112: 511-520.
3. Rana, O.R., et al. 2010. Mechanical stretch induces nerve sprouting in rat sympathetic neurocytes. Auton. Neurosci. 155: 25-32.
4. Rana, O.R., et al. 2010. Acetylcholine as an age-dependent non-neuronal source in the heart. Auton. Neurosci. 156: 82-89.
5. Schulz, A., et al. 2010. Merlin inhibits neurite outgrowth in the CNS. J. Neurosci. 28: 10177-10186.
6. Saygili, E., et al. 2011. Sympathetic neurons express and secrete MMP-2 and MT1-MMP to control nerve sprouting via pro-NGF conversion. Cell. Mol. Neurobiol. 31: 17-25.
7. Vantaggiato, C., et al. 2011. Senataxin modulates neurite growth through fibroblast growth factor 8 signalling. Brain 134: 1808-1828.
8. Dedoni, S., et al. 2012. Type I interferons impair BDNF-induced cell signaling and neurotrophic activity in differentiated human SH-SY5Y neuroblastoma cells and mouse primary cortical neurons. J. Neurochem. 122: 58-71.
9. Boczek, T., et al. 2012. Gene expression pattern in PC12 cells with reduced PMCA2 or PMCA3 isoform: selective up-regulation of calmodulin and neuromodulin. Mol. Cell. Biochem. 360: 89-102.