

SCG10 (2-RE19): sc-135620

BACKGROUND

SCG10, also designated stathmin-like 2 (STMN2), is a neuronal growth-associated protein (nGAP) that belongs to the stathmin family. Stathmin family phosphoproteins are involved in regulation of microtubule dynamics and signal transduction. SCG10, which is membrane-associated and neuron-specific, may participate in neuronal differentiation and may modulate membrane interaction with the cytoskeleton during neurite outgrowth. The SCG10 protein binds to and inhibits the assembly of microtubules, and can also induce microtubule disassembly. The assembly and disassembly of microtubules is necessary for cell division, intracellular transport and cell movements, as well as neurite elongation, outgrowth and branching in the developing nervous system.

REFERENCES

1. Stein, R., Mori, N., Matthews, K., Lo, L.C. and Anderson, D.J. 1990. The NGF-inducible SCG10 mRNA encodes a novel membrane-bound protein present in growth cones and abundant in developing neurons. *Neuron* 1: 463-476.
2. Wuenschell, C.W., Mori, N. and Anderson, D.J. 1990. Analysis of SCG10 gene expression in transgenic mice reveals that neural specificity is achieved through selective derepression. *Neuron* 4: 595-602.
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CHROMOSOMAL LOCATION

Genetic locus: STMN2 (human) mapping to 8q21.13; Stmn2 (mouse) mapping to 3 A1.

SOURCE

SCG10 (2-RE19) is a mouse monoclonal antibody raised against recombinant SCG10 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

SCG10 (2-RE19) is recommended for detection of SCG10 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SCG10 siRNA (h): sc-40782, SCG10 siRNA (m): sc-40783, SCG10 shRNA Plasmid (h): sc-40782-SH, SCG10 shRNA Plasmid (m): sc-40783-SH, SCG10 shRNA (h) Lentiviral Particles: sc-40782-V and SCG10 shRNA (m) Lentiviral Particles: sc-40783-V.

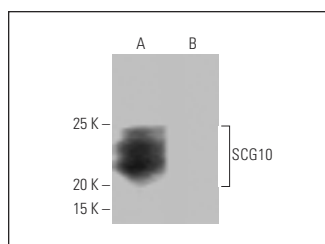
Molecular Weight of SCG10: 23-25 kDa.

Positive Controls: IMR-32 whole cell lysate: sc-2409 or human SCG10 transfected 293T whole cell lysate.

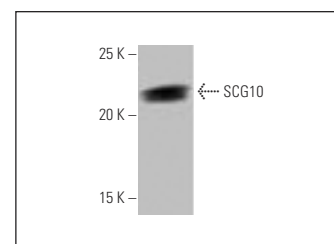
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



SCG10 (2-RE19): sc-135620. Western blot analysis of SCG10 expression in human SCG10 transfected (A) and non-transfected (B) 293T whole cell lysates.



SCG10 (2-RE19): sc-135620. Western blot analysis of SCG10 expression in IMR-32 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Guo, Q., Su, N., Zhang, J., Li, X., Miao, Z., Wang, G., Cheng, M., Xu, H., Cao, L.B. and Li, F. 2014. PAK4 kinase-mediated SCG10 phosphorylation involved in gastric cancer metastasis. *Oncogene* 33: 3277-3287.
2. Liu, Y., Wang, Y., Chen, Y., Li, X., Yang, J., Liu, Y. and Shen A. 2015. Spy1 protein mediates phosphorylation and degradation of SCG10 protein in axonal degeneration. *J. Biol. Chem.* 290: 13888-13894.
3. Choi, G.E., Oh, J.Y., Lee, H.J., Chae, C.W., Kim, J.S., Jung, Y.H. and Han, H.J. 2018. Glucocorticoid-mediated ER-mitochondria contacts reduce AMPA receptor and mitochondria trafficking into cell terminus via microtubule destabilization. *Cell Death Dis.* 9: 1137.

STORAGE

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