

RGS9-1 (D3): sc-53988

BACKGROUND

The vision system comprises a cascade of complex biochemical reactions that each contain numerous steps taking place in a matter of nanoseconds. RGS represents a family of GTPase accelerating proteins (GAPs) which play important roles in the vision system pathways. RGS9 is a member of this family and is the main source of GAP activity in the rod outer segments. RGS9-1 is an isoform of RGS9 that is found predominately in vertebrate cone and rod photoreceptors, and is required for rapid recovery of the light response in these locations. RGS9-1 is a peripheral protein of the disk membranes that binds membranes very tightly. R9AP binds to the N-terminal domain of RGS9-1 and anchors it to the disk membrane through a C-terminal transmembrane helix. RGS9-1 is phosphorylated by protein kinase A in a mechanism that may be responsible for mediating a stronger photoresponse in dark-adapted cells.

REFERENCES

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2. Zhang, K., Howes, K.A., He, W., Bronson, J.D., Pettanati, M.J., Chen, C., Palczewski, K., Wensel, T.G. and Baehr, W. 1999. Structure, alternative splicing, and expression of the human RGS9 gene. *Gene* 240: 23-34.
3. Hepler, J.R. 1999. Emerging roles for RGS proteins in cell signalling. *Trends Pharmacol. Sci.* 20: 376-382.
4. Balasubramanian, N., Levay, K., Keren-Raifman, T., Faurobert, E. and Slepak, V.Z. 2001. Phosphorylation of the regulator of G protein signaling RGS9-1 by protein kinase A is a potential mechanism of light- and Ca²⁺-mediated regulation of G protein function in photoreceptors. *Biochemistry* 40: 12619-12627.
5. Hu, G., Jang, G.F., Cowan, C.W., Wensel, T.G. and Palczewski, K. 2001. Phosphorylation of RGS9-1 by an endogenous protein kinase in rod outer segments. *J. Biol. Chem.* 276: 22287-22295.

CHROMOSOMAL LOCATION

Genetic locus: *Rgs9* (mouse) mapping to 11 E1.

SOURCE

RGS9-1 (D3) is a mouse monoclonal antibody raised against full length RGS9-1 mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

RGS9-1 (D3) is recommended for detection of RGS9-1 of mouse, rat and bovine 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 RGS9 siRNA (m): sc-36413, RGS9 shRNA Plasmid (m): sc-36413-SH and RGS9 shRNA (m) Lentiviral Particles: sc-36413-V.

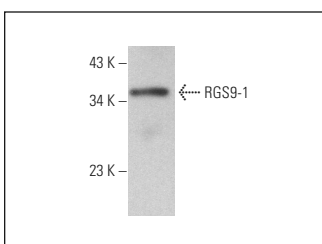
Molecular Weight of RGS9-1: 55 kDa.

Positive Controls: rat eye extract: sc-364805.

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



RGS9-1 (D3): sc-53988. Western blot analysis of RGS9-1 expression in rat eye tissue extract.

RESEARCH USE

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