

GCAP2 (A1): sc-59543

BACKGROUND

The intracellular stimulation of guanylate cyclase (GC) by calcium, a key event in the recovery of the dark state of rod photoreceptors after exposure to light, is mediated by guanylate cyclase-activating protein (GCAP1). GCAPs are calcium-binding proteins belonging to the calmodulin superfamily. GCAP1 is a calcium-binding protein that stimulates synthesis of c-GMP in photoreceptors. GCAP1 is present in rod and cone photoreceptor outer segments where phototransduction occurs. In contrast to other calcium-binding proteins from the calmodulin superfamily, the calcium-free form of GCAP1 stimulates the effector enzyme. By molecular cloning of human and mouse GCAP cDNA, the known mammalian GCAPs are found to be more than 90% similar, consisting of 201 to 205 amino acids, and containing three identically conserved calcium-binding sites. A related protein, GCAP2, is detectable only in the retina and results from a gene duplication event.

REFERENCES

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SOURCE

GCAP2 (A1) is a mouse monoclonal antibody raised against full length GCAP2 of bovine origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GCAP2 (A1) is recommended for detection of GCAP2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other isotypes.

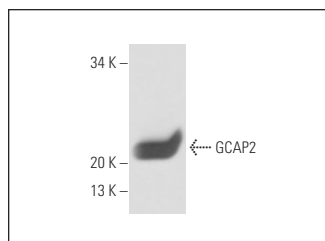
Molecular Weight of GCAP2: 23 kDa.

Positive Controls: bovine retina tissue extract.

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



GCAP2 (A1): sc-59543. Western blot analysis of GCAP2 expression in bovine retina tissue extract.

SELECT PRODUCT CITATIONS

- Venkatesan, J.K., Natarajan, S., Schwarz, K., Mayer, S.I., Alpadi, K., Magupalli, V.G., Sung, C.H. and Schmitz, F. 2010. Nicotinamide adenine dinucleotide-dependent binding of the neuronal Ca²⁺ sensor protein GCAP2 to photoreceptor synaptic ribbons. *J. Neurosci.* 30: 6559-6576.

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.

PROTOCOLS

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