SANTA CRUZ BIOTECHNOLOGY, INC.

GCAP2 (F6): sc-53990

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 cGMP 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. The genes which encode GCAP1 and GCAP2 map to human chromosome 6p21.1.

REFERENCES

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2. Gorczyca, W.A., Polans, A.S., Surgucheva, I.G., Subbaraya, I., Baehr, W. and Palczewski, K. 1995. Guanylyl cyclase activating protein. A calcium-sensitive regulator of phototransduction. J. Biol. Chem. 270: 22029-22036.
3. Surguchov, A., Bronson, J.D., Banerjee, P., Knowles, J.A., Ruiz, C., Subbaraya, I., Palczewski, K. and Baehr, W. 1997. The human GCAP1 and GCAP2 genes are arranged in a tail-to-tail array on the short arm of chromosome 6p21.1. Genomics 39: 312-322.
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SOURCE

GCAP2 (F6) is a mouse monoclonal antibody raised against full length GCAP2 of bovine origin.

PRODUCT

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

APPLICATIONS

GCAP2 (F6) 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)], 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); non cross-reactive with other isotypes.

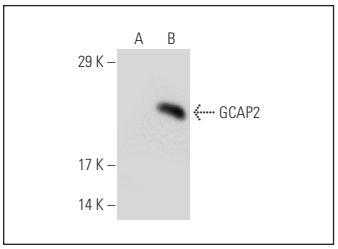
Molecular Weight of GCAP2: 23 kDa.

Positive Controls: bovine retina tissue extract.

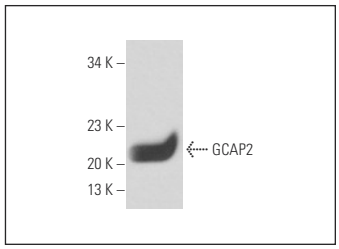
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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



GCAP2 (F6): sc-53990. Western blot analysis of GCAP2 expression in non-transfected: sc-117752 (**A**) and mouse GCAP2 transfected: sc-120436 (**B**) 293T whole cell lysates.



GCAP2 (G6): sc-53990. Western blot analysis of GCAP2 expression in bovine retina tissue extract.

SELECT PRODUCT CITATIONS

1. Alexandrov, P., Cui, J.G., Zhao, Y. and Lukiw, W.J. 2005. 24S-hydroxycholesterol induces inflammatory gene expression in primary human neural cells. Neuroreport 16: 909-913.
2. Cui, J.G., Hill, J.M., Zhao, Y. and Lukiw, W.J. 2007. Expression of inflammatory genes in the primary visual cortex of late-stage Alzheimer's disease. Neuroreport 18: 115-119.

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.