

# GCAP1 (G2G4): sc-59542

## 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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## CHROMOSOMAL LOCATION

Genetic locus: GUCA1A (human) mapping to 6p21.1.

## SOURCE

GCAP1 (G2G4) is a mouse monoclonal antibody raised against truncated GCAP1 of bovine origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

GCAP1 (G2G4) is recommended for detection of GCAP1 of human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)]; non cross-reactive with other isotypes.

Suitable for use as control antibody for GCAP1 siRNA (h): sc-40628, GCAP1 shRNA Plasmid (h): sc-40628-SH and GCAP1 shRNA (h) Lentiviral Particles: sc-40628-V.

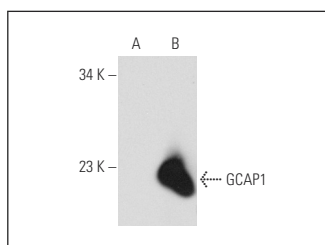
Molecular Weight of GCAP1: 20-23 kDa.

Positive Controls: GCAP1 (h): 293T Lysate: sc-114427, Y79 cell lysate: sc-2240 or HeLa whole cell lysate: sc-2200.

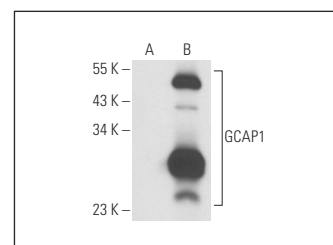
## RECOMMENDED SUPPORT REAGENTS

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



GCAP1 (G2G4): sc-59542. Western blot analysis of GCAP1 expression in non-transfected: sc-117752 (A) and human GCAP1 transfected: sc-114427 (B) 293T whole cell lysates.



GCAP1 (G2G4): sc-59542. Western blot analysis of GCAP1 expression in non-transfected: sc-117752 (A) and human GCAP1 transfected: sc-171956 (B) 293T whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.