

# ROS-GC1 (C-13): sc-34521

## BACKGROUND

Guanylate cyclases belong to the adenylyl cyclase class-4/guanylyl cyclase family. There are two forms of guanylate cyclase, a soluble form (GCS or sGC) and a membrane-bound receptor form. Rod outer segment membrane guanylate cyclase (ROS-GC) is a critical component of the vertebrate phototransduction machinery. ROS-GC1 is present in the retinal tissue and is localized exclusively in the nuclei and inner segments of the rod and cone photoreceptor cells. Defects in GUCY2D, the gene encoding ROS-GC1, are a cause of dominant cone-rod dystrophy type 6 (CORD6). CORD6 disease is characterized by the initial degeneration of cone photoreceptor cells, causing early loss of visual acuity and color vision, followed by the degeneration of rod photoreceptor cells leading to progressive night blindness and peripheral visual field loss.

## REFERENCES

1. Kumar, V.D., et al. 1999. A second calcium regulator of rod outer segment membrane guanylate cyclase, ROS-GC1: neurocalcin. *Biochemistry* 38: 12614-12620.
2. Denninger, J.W., et al. 1999. Guanylate cyclase and the NO/cGMP signaling pathway. *Biochim. Biophys. Acta* 1411: 334-350.
3. Venkataraman, V., et al. 2000. Rod outer segment membrane guanylate cyclase type 1-linked stimulatory and inhibitory calcium signaling systems in the pineal gland: biochemical, molecular and immunohistochemical evidence. *Biochemistry* 39: 6042-6052.
4. Condorelli, P., et al. 2001. *In vivo* control of soluble guanylate cyclase activation by nitric oxide: a kinetic analysis. *Biophys. J.* 80: 2110-2119.
5. Subbaraya, I., et al. 2003. Structure and Ca<sup>2+</sup> regulation of frog photoreceptor guanylate cyclase, ROS-GC1. *Mol. Cell. Biochem.* 254: 9-19.
6. SWISS-PROT/TrEMBL (Q02846). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>.

## CHROMOSOMAL LOCATION

Genetic locus: GUCY2D (human) mapping to 17p13.1; Gucy2e (mouse) mapping to 11 B3.

## SOURCE

ROS-GC1 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ROS-GC1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34521 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

ROS-GC1 (C-13) is recommended for detection of ROS-GC1 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)], 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).

ROS-GC1 (C-13) is also recommended for detection of ROS-GC1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for ROS-GC1 siRNA (h): sc-45429, ROS-GC1 siRNA (m): sc-45430, ROS-GC1 shRNA Plasmid (h): sc-45429-SH, ROS-GC1 shRNA Plasmid (m): sc-45430-SH, ROS-GC1 shRNA (h) Lentiviral Particles: sc-45429-V and ROS-GC1 shRNA (m) Lentiviral Particles: sc-45430-V.

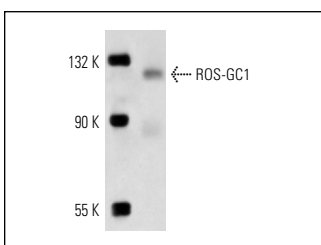
Molecular Weight of ROS-GC1: 120 kDa.

Positive Controls: rat eye extract: sc-364805.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



ROS-GC1 (C-13): sc-34521. Western blot analysis of ROS-GC1 expression in rat eye tissue extract.

## RESEARCH USE

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

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Try **ROS-GC1 (B-7): sc-376217** or **ROS-GC1 (A-5): sc-514879**, our highly recommended monoclonal alternatives to ROS-GC1 (C-13).