

ROS-GC1 (h): 293T Lysate: sc-129683

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 Ca²⁺ 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.

PRODUCT

ROS-GC1 (h): 293T Lysate represents a lysate of human ROS-GC1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

ROS-GC1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive ROS-GC1 antibodies. Recommended use: 10-20 µl per lane.

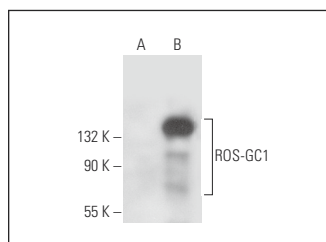
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ROS-GC1 (A-5): sc-514879 is recommended as a positive control antibody for Western Blot analysis of enhanced human ROS-GC1 expression in ROS-GC1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



ROS-GC1 (A-5): sc-514879. Western blot analysis of ROS-GC1 expression in non-transfected: sc-117752 (A) and human ROS-GC1 transfected: sc-129683 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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