SANTA CRUZ BIOTECHNOLOGY, INC.

# RGR (C-12): sc-160723

## BACKGROUND

RGR (retinal G protein coupled receptor), also known as RP44, is a 291 amino acid multi-pass membrane protein and rhodopsin homolog that functions as a receptor for all-trans- and 11-*cis*-retinal. Existing as three alternatively spliced isoforms, RGR is specifically expressed in tissue adjacent to retinal pigment epithelium, Mueller cells and retinal photoreceptor cells, and belongs to the G-protein coupled receptor 1 family and Opsin subfamily. RGR is suggested to play a role in vision, and defects in the gene encoding RGR are linked to the development of autosomal recessive retinitis pigmentosa (ARRP). Resulting in degeneration of retinal photoreceptor cells, patients with ARRP usually suffer from night vision blindness and eventually lose far peripheral visual field and central vision.

## REFERENCES


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2. Chen, X.N., et al. 1996. Localization of the human RGR opsin gene to chromosome 10q23. Hum. Genet. 97: 720-722.
3. Morimura, H., et al. 1999. Mutations in RGR, encoding a light-sensitive opsin homologue, in patients with retinitis pigmentosa. Nat. Genet. 23: 393-394.
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5. Tarttelin, E.E., et al. 2003. Expression of opsin genes early in ocular development of humans and mice. Exp. Eye Res. 76: 393-396.
6. Bernal, S., et al. 2003. Study of the involvement of the RGR, CRPB1, and CRB1 genes in the pathogenesis of autosomal recessive retinitis pigmentosa. J. Med. Genet. 40: e89.
7. Bailey, M.J. and Cassone, V.M. 2004. Opsin photoisomerases in the chick retina and pineal gland: characterization, localization, and circadian regulation. Invest. Ophthalmol. Vis. Sci. 45: 769-775.
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## CHROMOSOMAL LOCATION

Genetic locus: RGR (human) mapping to 10q23.1.

## SOURCE

RGR (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of RGR of human origin.

## 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.

## 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-160723 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RGR (C-12) is recommended for detection of RGR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for RGR siRNA (h): sc-90729, RGR shRNA Plasmid (h): sc-90729-SH and RGR shRNA (h) Lentiviral Particles: sc-90729-V.

Molecular Weight of RGR: 32 kDa.

## 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) 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.

## PROTOCOLS

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