

Recoverin (C-15): sc-20355

BACKGROUND

Light triggers the phototransduction cascade by activating the visual pigment rhodopsin. Phosphorylation of Rho by rhodopsin kinase is required for the recovery of sensitivity after intense illumination. Ca^{2+} ions act through Ca^{2+} -binding proteins and are implicated in the desensitization of phototransduction. Recoverin is implicated in the regulation of rhodopsin kinase activity that contributes to the adaptation to background illumination in retinal photoreceptor cells. Recoverin, a Ca^{2+} -binding photoreceptor protein, is recognized as an autoantigen of cancer-associated retinopathy (CAR), which is a rare paraneoplastic neurological syndrome characterized by the degeneration of retinal photoreceptors and associated with small-cell lung cancer. Recoverin is a heterogeneously myristoylated protein that inhibits rhodopsin kinase by inhibiting its phosphorylation. Ca^{2+} is required for Recoverin to bind rhodopsin kinase. In addition, the binding of Recoverin-rhodopsin kinase is weakened by autophosphorylation of the kinase and is strengthened by the presence of ADP. Upon accommodating two Ca^{2+} ions, Recoverin extrudes a myristoyl group and associates with the lipid bilayer membrane.

REFERENCES

1. Thirkill, C.E., et al. 1992. The cancer-associated retinopathy antigen is a Recoverin-like protein. *Invest. Ophthalmol. Vis. Sci.* 33: 2768-2772.
2. Matsubara, S., et al. 1996. Expression of a photoreceptor protein, Recoverin, as a cancer-associated retinopathy autoantigen in human lung cancer cell lines. *Br. J. Cancer* 74: 1419-1422.
3. Satpaev, D.K., et al. 1998. Autophosphorylation and ADP regulate the Ca^{2+} -dependent interaction of Recoverin with rhodopsin kinase. *Biochemistry* 37: 10256-10262.
4. Otto-Bruc, A.E., et al. 1998. Phosphorylation of photolyzed rhodopsin in calcium-insensitive in retina permeabilized by alpha-toxin. *Proc. Natl. Acad. Sci. USA* 95: 15014-15019.
5. Kawamura, S. 1999. Calcium-dependent regulation of rhodopsin phosphorylation. *Novartis Found Symp.* 224: 208-218.
6. Bazhin, A.V., et al. 2001. Retinal degeneration under the effect of antibodies to Recoverin. *Bull. Exp. Biol. Med.* 131: 350-352.

SOURCE

Recoverin (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Recoverin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-20355 P, (100 μ g 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

Recoverin (C-15) is recommended for detection of Recoverin of mouse, rat and 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 Recoverin siRNA (h): sc-40905, Recoverin siRNA (m): sc-40906, Recoverin shRNA Plasmid (h): sc-40905-SH, Recoverin shRNA Plasmid (m): sc-40906-SH, Recoverin shRNA (h) Lentiviral Particles: sc-40905-V and Recoverin shRNA (m) Lentiviral Particles: sc-40906-V.

Molecular Weight of Recoverin: 23 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.

RESEARCH USE

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

PROTOCOLS

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


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Try **Recoverin (6A55CD6): sc-53520**, our highly recommended monoclonal alternative to Recoverin (C-15).