

# Recoverin (6A55CD6): sc-53520

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Recoverin (6A55CD6) is a mouse monoclonal antibody raised against recombinant Recoverin of human origin.

## PRODUCT

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

Recoverin (6A55CD6) is available conjugated to agarose (sc-53520 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53520 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53520 PE), fluorescein (sc-53520 FITC), Alexa Fluor® 488 (sc-53520 AF488), Alexa Fluor® 546 (sc-53520 AF546), Alexa Fluor® 594 (sc-53520 AF594) or Alexa Fluor® 647 (sc-53520 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53520 AF680) or Alexa Fluor® 790 (sc-53520 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Recoverin (6A55CD6) 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) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Recoverin (6A55CD6) is also recommended for detection of Recoverin in additional species, including bovine and ovine.

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 SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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