

# IRBP (H-6): sc-390218

## BACKGROUND

Interphotoreceptor retinoid-binding protein (IRBP) is a retinoid and fatty acid binding protein expressed exclusively in the photoreceptor cells of the retina and pinealocytes of the pineal gland. The gene encoding human IRBP maps to chromosome 10q11.22. A putative *trans*-acting complex binds a *cis*-element in the IRBP promoter and fully activates transcription of the IRBP gene. Hypomethylation of cysteine residues in the IRBP promoters of bovine and murine photoreceptor cells permits expression of the IRBP gene. IRBP may be involved in shuttling retinoids between photoreceptors and the retinal pigment epithelium. IRBP exists as a glycoprotein with a four-fold repeat structure. Each 300 amino acid repeat contains one A and one B domain corresponding to the first 80 amino acids (A) and the other 220 amino acids (B). Along with S-antigen and opsin, the antigenic properties of IRBP induce posterior uveitis, which is characterized by the inflammation of the choroid and photoreceptor cell death.

## REFERENCES

1. Bunt-Milam, A.H. and Saari, J.C. 1983. Immunocytochemical localization of two retinoid-binding proteins in vertebrate retina. *J. Cell Biol.* 97: 703-712.
2. van Veen, T., et al. 1986. Retinal photoreceptor neurons and pinealocytes accumulate mRNA for interphotoreceptor retinoid-binding protein (IRBP). *FEBS Lett.* 208: 133-137.
3. Matsuo, T., et al. 1986. Immunological studies of uveitis. 3. Cell-mediated immunity to interphotoreceptor retinoid-binding protein. *Jpn. J. Ophthalmol.* 30: 487-494.
4. Broekhuysse, R.M., et al. 1986. Induction of experimental autoimmune uveoretinitis and pinealitis by IRBP. Comparison to uveoretinitis induced by S-antigen and opsin. *Curr. Eye Res.* 5: 231-240.
5. Liou, G.I., et al. 1987. Human interstitial retinol-binding protein (IRBP): cloning, partial sequence, and chromosomal localization. *Somat. Cell Mol. Genet.* 13: 315-323.
6. Okajima, T.I., et al. 1989. Interphotoreceptor retinoid-binding protein: role in delivery of retinal to the pigment epithelium. *Exp. Eye Res.* 49: 629-644.

## CHROMOSOMAL LOCATION

Genetic locus: RBP3 (human) mapping to 10q11.22; Rbp3 (mouse) mapping to 14 B.

## SOURCE

IRBP (H-6) is a mouse monoclonal antibody raised against a peptide mapping near the C-terminus of IRBP of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390218 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

IRBP (H-6) is recommended for detection of IRBP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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); also recommended for detection of IRBP of multiple other species.

Suitable for use as control antibody for IRBP siRNA (h): sc-40703, IRBP siRNA (m): sc-40704, IRBP shRNA Plasmid (h): sc-40703-SH, IRBP shRNA Plasmid (m): sc-40704-SH, IRBP shRNA (h) Lentiviral Particles: sc-40703-V and IRBP shRNA (m) Lentiviral Particles: sc-40704-V.

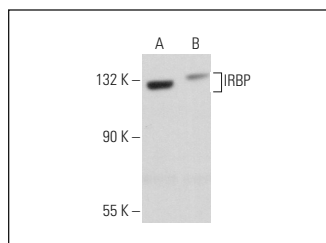
Molecular Weight of IRBP: 140 kDa.

Positive Controls: Y79 cell lysate: sc-2240, MDA-MB-231 cell lysate: sc-2232 or NIH/3T3 whole cell lysate: sc-2210.

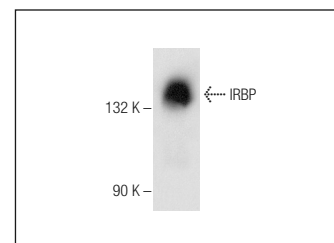
## RECOMMENDED SECONDARY REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



IRBP (H-6): sc-390218. Western blot analysis of IRBP expression in MDA-MB-231 (A) and NIH/3T3 (B) whole cell lysates.



IRBP (H-6): sc-390218. Western blot analysis of IRBP expression in Y79 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. McKeown, A.S., et al. 2016. Signalling beyond photon absorption: extracellular retinoids and growth factors modulate rod photoreceptor sensitivity. *J. Physiol.* 594: 1841-1854.

## 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.