SANTA CRUZ BIOTECHNOLOGY, INC.

CRALBP (G-9): sc-376082

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

11-*cis*-retinal, the universal chromophore of the vertebrate retina, is coupled to opsins in both rod and cone photoreceptor cells and is photoisomerized to all-*trans*-retinal by light. This conversion is inhibited when 11-*cis*-retinol is in a complex with cellular retinaldehyde-binding protein (CRALBP). CRALBP may play a role in the vertebrate visual process as a substrate-routing protein, influencing the enzymatic partitioning of 11-*cis*-retinol at a key branch point in the visual cycle. Human CRALBP maps to chromosome 15q26.1 and encodes a 316 amino acid protein. CRALBP is not expressed in photoreceptors and is abundant in the retinal pigment epithelium (RPE) and Muller cells of the neuroretina, where it carries 11-*cis*-retinol and 11-*cis*-retinaldehyde. Mutations in the human CRALBP gene cause retinal pathology and delayed dark adaptation. CRALBP knockout mice have a delayed response in rhodopsin regeneration, 11-*cis*-retinal production and dark adaptation after illumination.

REFERENCES

1. Crabb, J.W., et al. 1988. Cloning of the cDNAs encoding the cellular retinaldehyde-binding protein from bovine and human retina and comparison of the protein structures. J. Biol. Chem. 263: 18688-18692.
2. Sparkes, R.S., et al. 1992. Assignment of the gene (RLBP1) for cellular retinaldehyde-binding protein (CRALBP) to human chromosome 15q26 and mouse chromosome 7. Genomics 12: 58-62.

CHROMOSOMAL LOCATION

Genetic locus: RLBP1 (human) mapping to 15q26.1; Rlbp1 (mouse) mapping to 7 D3.

SOURCE

CRALBP (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 177-215 within an internal region of CRALBP of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CRALBP (G-9) is available conjugated to agarose (sc-376082 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376082 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376082 PE), fluorescein (sc-376082 FITC), Alexa Fluor® 488 (sc-376082 AF488), Alexa Fluor® 546 (sc-376082 AF546), Alexa Fluor® 594 (sc-376082 AF594) or Alexa Fluor® 647 (sc-376082 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376082 AF680) or Alexa Fluor® 790 (sc-376082 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376082 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

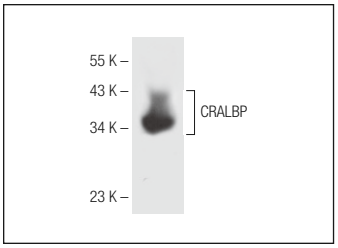
CRALBP (G-9) is recommended for detection of CRALBP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 CRALBP siRNA (h): sc-40428, CRALBP siRNA (m): sc-40429, CRALBP shRNA Plasmid (h): sc-40428-SH, CRALBP shRNA Plasmid (m): sc-40429-SH, CRALBP shRNA (h) Lentiviral Particles: sc-40428-V and CRALBP shRNA (m) Lentiviral Particles: sc-40429-V.

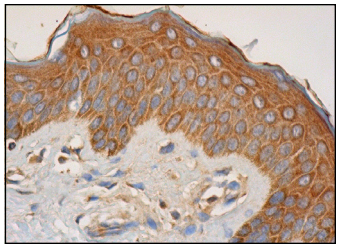
Molecular Weight of CRALBP: 36 kDa.

Positive Controls: rat eye extract: sc-364805.

DATA



CRALBP (G-9): sc-376082. Western blot analysis of CRALBP expression in rat eye tissue extract.



CRALBP (G-9): sc-376082. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of epidermal cells.

SELECT PRODUCT CITATIONS

1. Andjelic, S., et al. 2014. Characterization of *ex vivo* cultured neuronal- and glial-like cells from human idiopathic epiretinal membranes. BMC Ophthalmol. 14: 165.
2. Glass, J., et al. 2024. Proteomic alterations in retinal müller glial cells lacking interleukin-6 receptor: a comprehensive analysis. Invest. Ophthalmol. Vis. Sci. 65: 33.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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