

CRALBP (m): 293T Lysate: sc-126665

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*-retinal 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*-retinal 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

- 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.
- 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.
- Intres, R., et al. 1994. Molecular cloning and structural analysis of the human gene encoding cellular retinaldehyde-binding protein. *J. Biol. Chem.* 269: 25411-25418.
- McBee, J.K., et al. 2001. Isomerization of 11-*cis*-retinoids to all-*trans*-retinoids *in vitro* and *in vivo*. *J. Biol. Chem.* 276: 48483-48493.
- McBee, J.K., et al. 2001. Visual cycle impairment in cellular retinaldehyde binding protein (CRALBP) knockout mice results in delayed dark adaptation. *Neuron* 29: 739-748.
- Online Mendelian Inheritance in Man, OMIM[™]. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 180090. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: Rlbp1 (mouse) mapping to 7 D3.

PRODUCT

CRALBP (m): 293T Lysate represents a lysate of mouse CRALBP transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

CRALBP (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CRALBP antibodies. Recommended use: 10-20 µl per lane.

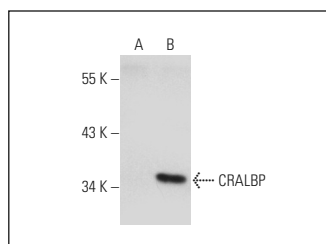
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CRALBP (B2): sc-59487 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse CRALBP expression in CRALBP transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT 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.

DATA



CRALBP (B2): sc-59487. Western blot analysis of CRALBP expression in non-transfected: sc-117752 (A) and mouse CRALBP transfected: sc-126665 (B) 293T whole cell lysates.

RESEARCH USE

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