



CRBP III (K-12): sc-48853

BACKGROUND

The cellular retinol-binding proteins (CRBP I, II and III) belong to a superfamily of small cytoplasmic proteins which interact with hydrophobic ligands of approximately 15 kDa in mass. Vitamin A, a molecule essential for cell growth, differentiation, embryonic development and vision, is transported into the cell by CRBPs in its alcoholic form, called retinol. The CRBPs are composed of 10 antiparallel β -strands, which form a β -barrel containing the retinol molecule, and two α -helices, which cover the open ends of the barrel. CRBP I shows expression in human ovary, adrenal and pituitary glands and testis, and TGF β modulates its expression. CRBP II displays expression solely in the small intestine and mediates the absorption of retinoids and carotenoids to biosynthesize retinyl esters. CRBP III is a 134 amino acid intracellular retinol-binding protein expressed in the heart, muscle, mammary and adipose tissue. CRBP III differs from CRBP I and CRBP II in that it binds to retinol but not retinaldehyde.

REFERENCES

1. Ong, D.E. and Page, D.L. 1986. Quantitation of cellular retinol-binding protein in human organs. *Am. J. Clin. Nutr.* 44: 425-430.
2. Cowan, S.W., Newcomer, M.E. and Jones, T.A. 1993. Crystallographic studies on a family of cellular lipophilic transport proteins. Refinement of P2 myelin protein and the structure determination and refinement of cellular retinol-binding protein in complex with all-*trans*-retinol. *J. Mol. Biol.* 230: 1225-1246.
3. Winter, N.S., Bratt, J.M. and Banaszak, L.J. 1993. Crystal structures of holo and apo-cellular retinol-binding protein II. *J. Mol. Biol.* 230: 1247-1259.
4. Okuno, M., Numaguchi, S., Moriwaki, H. and Muto, Y. 1993. Cellular retinoid-binding proteins. *Nippon Rinsho* 51: 879-885.
5. Caprioli, A., Zhu, H. and Sato, T.N. 2004. CRBP III:lacZ expression pattern reveals a novel heterogeneity of vascular endothelial cells. *Genesis* 40: 139-145.
6. Piantedosi, R., Ghyselinck, N., Blaner, W.S. and Vogel, S. 2005. Cellular retinol-binding protein type III is needed for retinoid incorporation into milk. *J. Biol. Chem.* 280: 24286-24292.

CHROMOSOMAL LOCATION

Genetic locus: RBP5 (human) mapping to 12p13.31.

SOURCE

CRBP III (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CRBP III 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-48853 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

CRBP III (K-12) is recommended for detection of CRBP III of 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).

Suitable for use as control antibody for CRBP III siRNA (h): sc-60440.

Molecular Weight of CRBP III: 16 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.

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 or our catalog for detailed protocols and support products.