

# RBP (C-4): sc-48384

## BACKGROUND

Retinol (Vitamin A) is transported in the blood bound to its carrier protein, retinol-binding protein (RBP), also designated plasma retinol-binding protein (PRBP) or RBP4. A member of the lipocalin family, RBP conveys retinol from stores in the liver to peripheral tissues. In plasma, RBP binds transthyretin (TTR, formerly called prealbumin) to prevent glomerular filtration of low molecular weight RBP in the kidneys. The stability of this complex holds diagnostic importance because the molar ratio of RBP:TTR provides an indirect way to indicate marginal Vitamin A deficiency. Vitamin A deficiency blocks the secretion of RBP, resulting in defective delivery and supply to epidermal cells. Originally identified solely as a transporter protein, recent studies correlating increased levels of RBP expression in adipose tissue with Insulin resistance have generated research into the possible roles the protein may play in the pathogenesis of type 2 diabetes and obesity.

## CHROMOSOMAL LOCATION

Genetic locus: RBP4 (human) mapping to 10q23.33.

## SOURCE

RBP (C-4) is a mouse monoclonal antibody raised against amino acids 1-201 of RBP 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.

RBP (C-4) is available conjugated to agarose (sc-48384 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48384 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48384 PE), fluorescein (sc-48384 FITC), Alexa Fluor® 488 (sc-48384 AF488), Alexa Fluor® 546 (sc-48384 AF546), Alexa Fluor® 594 (sc-48384 AF594) or Alexa Fluor® 647 (sc-48384 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48384 AF680) or Alexa Fluor® 790 (sc-48384 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

RBP (C-4) is recommended for detection of RBP of human origin by Western Blotting (starting dilution 1:200, 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 RBP siRNA (h): sc-44071, RBP shRNA Plasmid (h): sc-44071-SH and RBP shRNA (h) Lentiviral Particles: sc-44071-V.

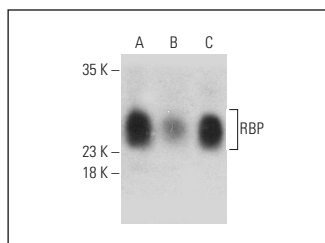
Molecular Weight of RBP: 25 kDa.

Positive Controls: human plasma extract: sc-364374, human liver extract: sc-363766 or Hep G2 cell lysate: sc-2227.

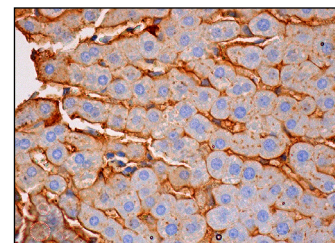
## RECOMMENDED SUPPORT REAGENTS

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. 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



RBP (C-4): sc-48384. Western blot analysis of RBP expression in Hep G2 whole cell lysate (A) and human liver (B) and human plasma (C) tissue extracts.



RBP (C-4): sc-48384. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatocytes.

## SELECT PRODUCT CITATIONS

- Peigné, L., et al. 2011. Combined use of anticancer drugs and an inhibitor of multiple drug resistance-associated protein-1 increases sensitivity and decreases survival of glioblastoma multiforme cells *in vitro*. *Neurochem. Res.* 36: 1397-1406.
- Kutasy, B., et al. 2012. Nitrofen interferes with trophoblastic expression of retinol-binding protein and transthyretin during lung morphogenesis in the nitrofen-induced congenital diaphragmatic hernia model. *Pediatr. Surg. Int.* 28: 143-148.
- Kutasy, B., et al. 2016. Antenatal retinoic acid administration increases trophoblastic retinol-binding protein dependent retinol transport in the nitrofen model of congenital diaphragmatic hernia. *Pediatr. Res.* 79: 614-620.
- Deng, X., et al. 2022. Positive expression of retinol-binding protein 4 is related to the malignant clinical features leading to poor prognosis of glioblastoma. *Genet. Res.* 2022: 5435523.

## STORAGE

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

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