SANTA CRUZ BIOTECHNOLOGY, INC.

RBP (F-12): sc-46688

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. van Bennekum, A.M., et al. 1993. Retinol uptake from retinol-binding protein (RBP) by liver parenchymal cells *in vitro* does not specifically depend on its binding to RBP. Biochemistry 32: 1727-1733.
2. Zanotti, G., et al. 1993. The interaction of N-ethyl retinamide with plasma retinol-binding protein (RBP) and the crystal structure of the retinoid-RBP complex at 1.9-A resolution. J. Biol. Chem. 268: 24873-24879.

CHROMOSOMAL LOCATION

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

SOURCE

RBP (F-12) is a mouse monoclonal antibody raised against amino acids 1-201 representing full length RBP of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RBP (F-12) is recommended for detection of precursor and mature RBP of 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 RBP siRNA (h): sc-44071, RBP shRNA Plasmid (h): sc-44071-SH and RBP shRNA (h) Lentiviral Particles: sc-44071-V.

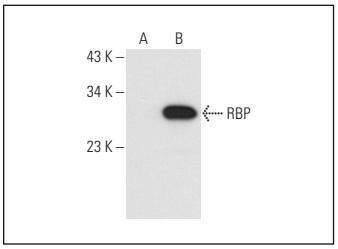
Molecular Weight of RBP: 25 kDa.

Positive Controls: RBP (h2): 293T Lysate: sc-170840, MES-SA/Dx5 cell lysate: sc-2284 or Hep G2 cell lysate: sc-2227.

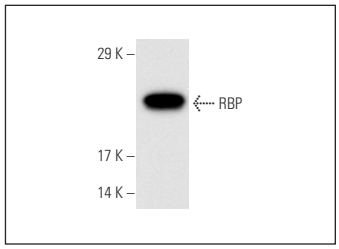
RECOMMENDED SUPPORT REAGENTS

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 (F-12): sc-46688. Western blot analysis of RBP expression in non-transfected: sc-117752 (**A**) and human RBP transfected: sc-170840 (**B**) 293T whole cell lysates.



RBP (F-12): sc-46688. Western blot analysis of RBP expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Anagnostopoulos, A.K., et al. 2010. Proteomic analysis of amniotic fluid in pregnancies with Klinefelter syndrome foetuses. J. Proteomics 73: 943-950.
2. Salgado-Somoza, A., et al. 2011. Coronary artery disease is associated with higher epicardial renitol binding protein 4 (RBP4) and lower glucose transporter (GLUT) 4 levels in epicardial and subcutaneous adipose tissue. Clin. Endocrinol. 76: 51-58.
3. Freeman, W.M., et al. 2011. Plasma proteomic alterations in non-human primates and humans after chronic alcohol self-administration. Int. J. Neuropsychopharmacol. 14: 899-911.
4. Ozaki, R., et al. 2017. Reprogramming of the retinoic acid pathway in decidualizing human endometrial stromal cells. PLoS ONE 12: e0173035.

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.

PROTOCOLS

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