

# RBP (FL-201): sc-25850

## 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

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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.
3. Yamamoto, Y., et al. 1997. Interactions of transthyretin (TTR) and retinol-binding protein (RBP) in the uptake of retinol by primary rat hepatocytes. *Exp. Cell Res.* 234: 373-378.
4. Naylor, H.M., et al. 1999. The structure of human retinol-binding protein (RBP) with its carrier protein transthyretin reveals an interaction with the carboxy-terminus of RBP. *Biochemistry* 38: 2647-2653.
5. Quadro, L., et al. 2002. Muscle expression of human retinol-binding protein (RBP). Suppression of the visual defect of RBP knockout mice. *J. Biol. Chem.* 277: 30191-30197.
6. Rosales, F.J., et al. 2002. Determination of a cut-off value for the molar ratio of retinol-binding protein to transthyretin (RBP:TTR) in Bangladeshi patients with low hepatic vitamin A stores. *J. Nutr.* 132: 3687-3692.
7. Monaco HL. 2002. Three-dimensional structure of the transthyretin- retinol-binding protein complex. *Clin. Chem. Lab. Med.* 40: 1229-1236

## CHROMOSOMAL LOCATION

Genetic locus: RBP4 (human) mapping to 10q23.33; Rbp4 (mouse) mapping to 19 C3.

## SOURCE

RBP (FL-201) is a rabbit polyclonal antibody raised against amino acids 1-201 representing full length RBP of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

RBP (FL-201) is recommended for detection of precursor and mature RBP of mouse, rat and 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).

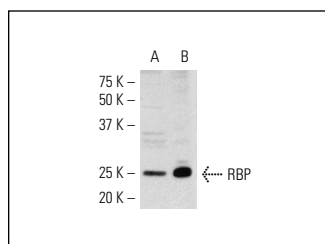
RBP (FL-201) is also recommended for detection of precursor and mature RBP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RBP siRNA (h): sc-44071, RBP siRNA (m): sc-44578, RBP shRNA Plasmid (h): sc-44071-SH, RBP shRNA Plasmid (m): sc-44578-SH, RBP shRNA (h) Lentiviral Particles: sc-44071-V and RBP shRNA (m) Lentiviral Particles: sc-44578-V.

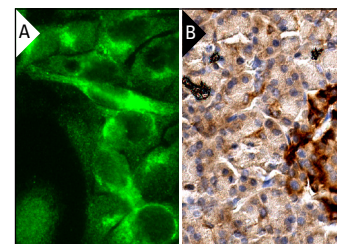
Molecular Weight of RBP: 25 kDa.

Positive Controls: MES-SA/Dx5 cell lysate: sc-2284 or Hep G2 cell lysate: sc-2227.

## DATA



RBP (FL-201): sc-25850. Western blot analysis of RBP expression in MDCK (A) and MES-SA/Dx5 (B) whole cell lysates.



RBP (FL-201): sc-25850. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans and glandular cells (B).

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **RBP (C-4): sc-48384** or **RBP (F-12): sc-46688**, our highly recommended monoclonal alternatives to RBP (FL-201).