

Product Information

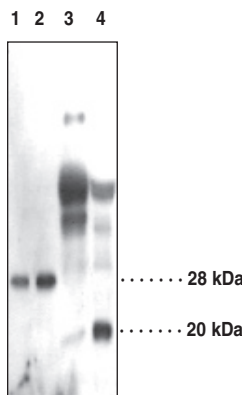


Serum Retinol Binding Protein 4 Polyclonal Antibody

Catalog No. 10007681

- Synonyms:** sRBP4, pRBP, Plasma Retinol Binding Protein 4
- Contents:** This vial contains 300 µg of peptide affinity-purified IgG in 500 µl of TBS, pH 7.4, containing 50% glycerol, 0.5 mg/ml BSA, and 0.02% sodium azide.
- Host:** Rabbit
- Antigen:** Human sRBP4 amino acids 28-37 (RVKENFDKAR)
- Cross-reactivity:** (+) Human sRBP4; other species not tested
Homology of the peptide antigen with sRBP4 from other species:
Human R V K E N F D K A R
Murine R V K E N F D K A R
Rat R V K E N F D K A R
- Stability:** ≥1 year at -20°C
- Applications:** Recommended starting dilution for western blot is 1:200 (3 µg/ml). Other applications were not optimized so working dilutions should be determined empirically.

Serum retinol binding protein 4 (sRBP4) binds one equivalent of vitamin A and is one of the major retinol carriers found in the blood of mammals.^{1,2} Human RBP4 is a monomeric 21 kDa β-sheet-rich protein that contains three disulfide bonds and belongs to the lipocalin protein family.³ sRBP4 is synthesized and sequestered in hepatocytes until retinol binding triggers its secretion.³ In plasma, sRBP4 typically forms a 1:1 complex with the 55 kDa tetrameric protein transthyretin (TTR) which prevents RBP from being removed from the plasma by glomerular filtration.⁴ Recent studies have shown that sRBP4 is an adipocyte-derived 'signal' that may contribute to the pathogenesis of type 2 diabetes.^{5,6} Elevation of sRBP4 causes systemic insulin resistance whereas reduction of serum concentrations improves insulin action.^{5,7,8} The highest known concentrations of this protein exist in serum, liver, and skeletal muscle.^{5,8,9}



Lane 1: Recombinant sRBP4 (6X His-tagged) (0.075 µg)
Lane 2: Recombinant sRBP4 (6X His-tagged) (0.150 µg)
Lane 3: Human Plasma (-Albumin) (12 µg)
Lane 4: Human Plasma (50 µg)

References

1. Noy, N. Retinoid-binding proteins: Mediators of retinoid action. *Biochem J.* **348**, 481-495 (2000).
2. Xie, Y., Lashuel, H.A., Miroy, G.J., *et al.* Recombinant human retinol-binding protein refolding, native disulfide formation, and characterization. *Protein Expression and Purification* **14**, 31-37 (1998).
3. Cowan, S.W., Newcomer, M.E., and Jones, T.A. Crystallographic refinement of human serum retinol binding protein at 2Å resolution. *Proteins: Structure, Function, and Genetics* **8**, 44-61 (1990).
4. Sivaprasadarao, A. and Findlay, J.B.C. Expression of functional human retinol-binding protein in Escherichia coli using a secretion vector. *Biochem J.* **296**, 209-215 (1993).
5. Yang, Q., Graham, T.E., Mody, N., *et al.* Serum retinol binding protein 4 contributes to insulin resistance in obesity and type 2 diabetes. *Nature* **436**, 356-362 (2005).
6. Muoio, D.M. and Newgard, C.B. A is for adipokine. *Nature News and Views* **436**, 337-338 (2005).
7. Graham, T.E., Yang, Q., Blüher, M., *et al.* Retinol-binding protein 4 and insulin resistance in lean, obese, and diabetic subjects. *N. Engl. J. Med.* **354(24)**, 2552-2563 (2006).
8. Polonsky, K.S. Retinol-binding protein 4, insulin resistance, and type 2 diabetes. *N. Engl. J. Med.* **354(24)**, 2596-2598 (2006).
9. Tamori, Y., Sakaue, H., and Kasuga, M. RBP4, an unexpected adipokine. *Nature Med.* **12(1)**, 30-31 (2006).

Related Products

PPARγ Polyclonal Antibody - Cat. No. 101700 • PPARα Polyclonal Antibody - Cat. No. 101710 • PPARδ Polyclonal Antibody - Cat. No. 101720 • PPARδ Transcription Factor Assay Kit- Cat. No. 10006247 • PPARδ (human recombinant)- Cat. No. 10007451 • Serum Retinol Binding Protein 4 (human recombinant) - Cat. No. 10007818

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery.**

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy** located on our website and in our catalog.

Copyright Cayman Chemical Company, 03/09/2010

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com