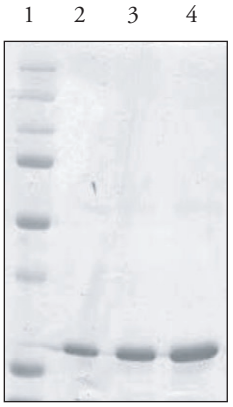
Product Information

Serum Retinol Binding Protein 4 (human recombinant)

Catalog No. 10007818 • Lot. No. XXXXX

Synonyms: RBP4; sRBP4
Source: Recombinant his-tagged protein purified from *E. coli*
M_r: ~21 kDa/subunit
Purity: ≥95%
Stability: ≥6 months at -80°C
Supplied as: A solution in 50 mM sodium phosphate, pH 8.2, containing 20% glycerol and 100 mM sodium chloride
Protein concentration: XX mg/ml



1. MW
2. 0.5 µg
3. 1.0 µg
4. 2.0 µg

Laboratory Procedures

Human serum retinol binding protein 4 (sRBP4) binds to one equivalent of vitamin A and is one of the major retinol carriers found in the blood of mammals.[1,2] Human sRBP4 is a monomeric 21 kDa β-sheet-rich protein that contains three disulfide bonds and belongs to the lipocalin protein family.[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 reduced serum concentrations of sRBP4 improves insulin action.[5,7,8]

Cayman's human recombinant sRBP4 contains a C-terminal hexahistidine tag. The purified protein was characterized for its retinol binding activity. sRBP4 is stable at -20°C for six months. For long term storage aliquot the protein and store at -80°C.

References

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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).
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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).

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