

Human/Mouse RBP4/Retinol-Binding Protein 4 Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 423619

Catalog Number: FAB34761G

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects mouse RBP4/Retinol-Binding Protein 4 in direct ELISA and Western Blot. In Western blots, detects human RBP4/Retinol-Binding Protein 4.
Source	Monoclonal Rat IgG _{2A} Clone # 423619
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse RBP4/Retinol-Binding Protein 4 Met1-Leu201 Accession # NP_035385
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Mouse splenocytes

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Retinol (also known as vitamin A) is unstable and insoluble in the aqueous solution. However, retinol becomes quite stable and soluble in plasma due to its tight interaction with Retinol-binding Protein 4 (RBP4), also known as Plasma Retinol-binding Protein (1-3). A prototypic member of the lipocalin superfamily, RBP4 has a β-barrel structure with a well-defined cavity. It is secreted from the liver, a process requiring the availability of retinol. RBP4 delivers retinol from the liver to the peripheral tissues. In plasma, the RBP4-retinol complex interacts with transthyretin (TTR), also known as thyroxine-binding protein and prealbumin. The retinol-RBP4-TTR complex prevents the loss of RBP4 by filtration through the kidney and increases the stability of the retinol-RBP4 complex. Defects in RBP4 cause retinol-binding protein deficiency, which affects night vision. Serum RBP4 levels are elevated in insulin-resistant mice and humans with obesity and type 2 diabetes, implying that RBP4, an adipocyte-derived signal, may be a biomarker and a drug target for the two diseases. The amino acid sequence of mouse RBP4 is 99%, 86%, 83% and 75% identical to that of rat, human/chimpanzee, dog and chicken.

References:

- Zanotti, G. and R. Berni (2004) *Vitamins and Hormones* **69**:271.
- Newcomer, M.E. and D.E. Ong (2000) *Biochim. Biophys. Acta* **1482**:57.
- Yang, Q. *et al.* (2005) *Nature* **436**:356.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.