

Human/Mouse RBP4/Retinol-Binding Protein 4 Alexa Fluor® 647-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 423619

Catalog Number: FAB34761R

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 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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. <i>General Protocols</i> are available in the <i>Technical Information</i> 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:

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

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