

# Recombinant Mouse RBP4

Catalog Number: 50170-M08H



**Sino Biological Inc.**  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

Rbp-4, Rbp4

### Protein Construction:

A DNA sequence encoding the mouse RBP4 ( NP\_035385.1 ) ( Met 1 - Leu 201 ) was fused with a polyhistidine tag at the C-terminus

**Source:** Mouse

**Expression Host:** Human Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Bio-activity:

Measured by its ability to bind alltrans retinoic acid. The binding of retinoic acid results in the quenching of Trp fluorescence in RBP4

**The 50% binding concentration (  $BC_{50}$  ) is > 2  $\mu$ M**

### Endotoxin:

< 1.0 EU per  $\mu$ g protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Glu 19

### Molecular Mass:

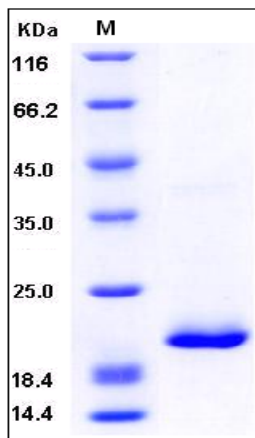
The secreted recombinant mouse RBP4 comprises 194 amino acids and has a predicted molecular mass of 22.8 kDa as estimated in SDS-PAGE under reducing conditions

### Formulation:

Lyophilized from sterile PBS , pH 7.4

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements

### SDS-PAGE:



## Usage Guide

### Storage:

Store it under sterile conditions at -70 °C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## Protein Description

Mouse retinol-binding protein 4 ( RBP4 ) is the specific carrier for retinol (also known as vitamin A), and is responsible for the conversion of unstable and insoluble retinol in aqueous solution into stable and soluble complex in plasma through their tight interaction. As a member of the lipocalin superfamily, RBP4 containing a  $\beta$ -barrel structure with a well-defined cavity is secreted from the liver, and in turn delivers retinol from the liver stores to the peripheral tissues. In plasma, the RBP4-retinol complex interacts with transthyretin (TTR), and this binding is crucial for preventing RBP4 excretion through the kidney glomeruli. RBP4 expressed from an ectopic source efficiently delivers retinol to the eyes, and its deficiency affects night vision largely. In addition, RBP4 is recently identified as an adipokine whose dysregulation is closely associated with the pathogenesis of insulin resistance and type 2 diabetes, as well as obesity.

## References

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3. Zanotti, G. et al., 2004, Vitamins and Hormones. 69: 271-295.
4. Cho, Y.M. et al., 2006, Diabetes.Care. 29: 2457-2461.
5. Balagopal, P. et al., 2007, J. Clin. Endocrinol. Metab. 92: 1971-1974.

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