

## Retinol Binding Protein 4 (RBP4) Active Protein | RBP4 active protein

Active Retinol Binding Protein 4 (RBP4)

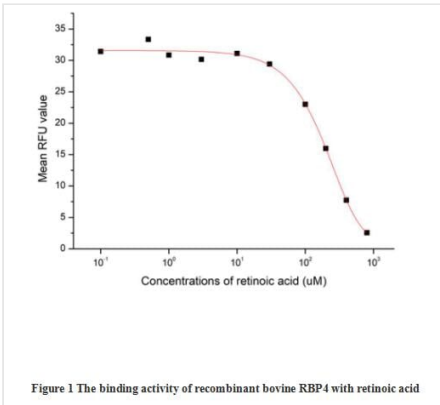
|                               |                       |                                                     |
|-------------------------------|-----------------------|-----------------------------------------------------|
| CATALOG #<br><b>AAA161803</b> | HOST<br><b>E Coli</b> | APPLICATIONS<br><b>Activity Assay, Cell Culture</b> |
|-------------------------------|-----------------------|-----------------------------------------------------|

### PRODUCT SYNONYMS

Retinol Binding Protein 4 (RBP4); Active Retinol Binding Protein 4 (RBP4); Retinol Binding Protein 4; PRBP; RBP; Plasma retinol-binding protein; Plasma4; RBP4 active protein

### PRODUCT SPECIFICATIONS

|                                                 |                                                                                              |
|-------------------------------------------------|----------------------------------------------------------------------------------------------|
| Host                                            | E Coli                                                                                       |
| Purity/Purification                             | Greater than 95% by SDS-PAGE                                                                 |
| Form/Format                                     | Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300. |
| Sequence                                        | Glu1~Leu18 3                                                                                 |
| Applicable Applications for RBP4 active protein | Activity Assay, Cell Culture                                                                 |
| Species                                         | Bovine                                                                                       |
| Expression System                               | Prokaryotic expression                                                                       |
| Tag                                             | N-terminal His Tag                                                                           |
| Endotoxin Level                                 | <1.0EU per 1ug (determined by the LAL method)                                                |
| Isoelectric Point                               | 6                                                                                            |
| Research Area                                   | Metabolic pathway, Endocrinology, Hormone metabolism                                         |
| Preparation and Storage                         | Store at 2-8 degree C for one month, -80 degree C for 12 months                              |

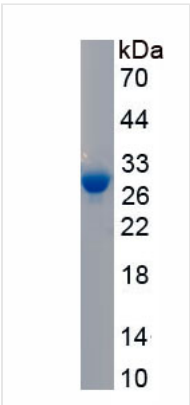


Bioactivity

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. Recently, RBP4 as an adipokine, is found to be expressed in adipose tissue and correlated with obesity, insulin resistance (IR) and type 2 diabetes (T2DM). The activity of recombinant bovine RBP4 was measured by its ability to bind all-trans retinoic acid. The binding of retinoic acid results in the quenching of Trp fluorescence in RBP4. RBP4 was diluted to 50 ug/ml in 50 mM Tris, 10 mM CaCl2, 150 mM NaCl, pH 7.5 (assay buffer) and the retinoic acid was diluted to 800, 400, 200, 100, 30, 10, 3, 1, 0.5 and 0.1 uM in 95% ethanol. Mixing 112.5 uL of 50 ug/mL rbRBP4 and 12.5 uL of retinoic acid serial dilutions in microtubes and a blank containing 112.5 uL of 50 ug/mL rbRBP4 and 12.5 uL of 95% ethanol, then incubate at room temperature for 30 minutes. Loading 100 ul of the reaction mixtures and blank and read at excitation and emission wavelengths of 280 nm and 340 nm (top read), respectively, in endpoint mode. The result was shown in figure 1, the 50% binding concentration (BC50) is >190 uM.

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

|                                                   |                 |
|---------------------------------------------------|-----------------|
| Product Categories/Family for RBP4 active protein | Active proteins |
|---------------------------------------------------|-----------------|

NCBI AND UNIPROT INFORMATION

|                                  |                                                                      |
|----------------------------------|----------------------------------------------------------------------|
| NCBI GI #                        | 132403                                                               |
| NCBI GeneID                      | 281444                                                               |
| UniProt Accession #              | P18902                                                               |
| Molecular Weight                 | 21,069 Da                                                            |
| NCBI Official Full Name          | Retinol-binding protein 4                                            |
| NCBI Official Synonym Full Names | retinol binding protein 4, plasma                                    |
| NCBI Official Symbol             | RBP4                                                                 |
| NCBI Protein Information         | retinol-binding protein 4; RBP; PRBP; plasma retinol-binding protein |
| UniProt Protein Name             | Retinol-binding protein 4                                            |
| UniProt Gene Name                | RBP4                                                                 |
| UniProt Synonym Gene Names       | PRBP; RBP                                                            |
| UniProt Entry Name               | RET4_BOVIN                                                           |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/retinol-binding-protein-4-rbp4/161803>