

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

Active Retinol Binding Protein 4 (RBP4)

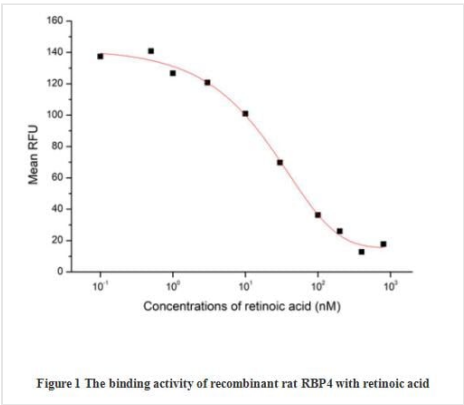
CATALOG # AAA161808	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

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	Glu19~Leu201
Applicable Applications for RBP4 active protein	Activity Assay, Cell Culture
Species	Rat
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	6.3
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

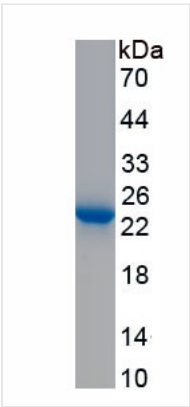


Bioactivity

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 rat 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 rrRBP4 and 12.5 uL of retinoic acid serial dilutions in microtubes and a blank containing 112.5 uL of 50 ug/mL rrRBP4 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 >22 uM.

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for RBP4 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	158187535
NCBI GeneID	25703
NCBI Accession #	NP_037294.1
NCBI GenBank Nucleotide #	NM_013162.1
UniProt Accession #	P04916
Molecular Weight	23,220 Da
NCBI Official Full Name	retinol-binding protein 4
NCBI Official Synonym Full Names	retinol binding protein 4, plasma
NCBI Official Symbol	Rbp4
NCBI Official Synonym Symbols	RBPA
NCBI Protein Information	retinol-binding protein 4; PRBP; plasma retinol-binding protein
UniProt Protein Name	Retinol-binding protein 4

UniProt Gene Name	Rbp4
UniProt Synonym Gene Names	PRBP; RBP

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-rbp4/161808>