RBP4 Cell Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	RBP4, Cell Lysate
Full Product Name	Rat RBP4 HEK293 Overexpression Lysate
Product Gene Name	RBP4 cell lysate
Product Synonym Names	Rat RBP4 HEK293 Cell Lysate (WB positive control); retinol binding protein 4, plasma
Sequence	Met1-Leu20 1
Host	HEK293 Cells
Form/Format	1x Sample Buffer (1x modified RIPA buffer+1x SDS loading buffer). Modified RIPA Lysis Buffer: 50 mM Tris-HCl pH 7.4, 150 mM NaCl, 1mM EDTA, 1% Triton X-100, 0.1% SDS, 1% Sodium deoxycholate, 1mM PMSF.
Preparation and Storage	Store at 4 degree C for up to twelve months from date of receipt. After re-dissolution, aliquot and store at -80 degree C for up to twelve months. Avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt.
Molecular Weight	23,220 Da
Sequence Positions	194aa
Species	Rat
Recommend Usage	1. Centrifuge the tube for a few seconds and ensure the pellet at the bottom of the tube.**2. Re-dissolve the pellet using 200uL pure water and boil for 2-5 min.**
Sequence Construction	A DNA sequence encoding the extracellular domain of rat RBP4 (NP_037294.1) (Met 1-Leu 201) was expressed, fused with a polyhistidine tag at the C-terminus.
Preparation Method	Cell lysate was prepared by homogenization of the over-expressed cells in ice-cold modified RIPA Lysis Buffer with cocktail of protease inhibitors. Cell debris was removed by centrifugation. Protein concentration was determined by Bradford assay (protein assay, Microplate Standard assay). The cell lysate was boiled for 5 min in 1 x SDS loading buffer (50mM Tris-HCl pH 6.8, 12.5% glycerol, 1% sodium dodecylsulfate, 0.01% bromophenol blue) containing 5% b-mercaptoethanol, and lyophilized.
Applications Tested/Suitable for RBP4 cell lysate	Western Blot (WB)
Application Notes for RBP4 cell lysate	WB: Use at an assay dependent dilution.
Related Product Information for RBP4 cell lysate	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). This Rat RBP4 overexpression lysate was created in HEK293 Cells and intented for use as a Western blot (WB) positive control. Purification of RBP4 protein from the overexpression lysate was verified.

Product References and Citations for RBP4 cell lysate	Yang Q, et al. (2005) Serum retinol binding protein 4 contributes to insulin resistance in obesity and type 2 diabetes. Nature. 436(7049): 356-62.Choi SH, et al. (2008) High plasma retinol binding protein-4 and low plasma adiponectin concentrations are associated with severity of glucose intolerance in women with previous gestational diabetes mellitus. J Clin Endocrinol Metab. 93(8): 3142-8.Tepper BJ, et al. (2010) Serum retinol-binding protein 4 (RBP4) and retinol in a cohort of borderline obese women with and without gestational diabetes. Clin Biochem. 43(3): 320-3.
Other Notes	Small volumes of RBP4 cell lysate vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for RBP4 purchase	MBS8117323 is a cell lysate targeting RBP4. Also known as Rat RBP4 HEK293 Overexpression Lysate. Host: HEK293 Cells.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for RBP4. It may not necessarily be applicable to this product.

NCBI GI #	158187535
NCBI GeneID	25703
NCBI Accession #	NP_037294.1
UniProt Related Accession #	P04916
GenBank Nucleotide #	NM_013162.1
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
Protein Family	Retinol-binding protein
NCBI Protein Information	retinol-binding protein 4; PRBP; plasma retinol-binding protein
NCBI Summary for RBP4	may play a role in vitamin A transport [RGD, Feb 2006]
Research Articles on RBP4	**1.** Retinol binding protein 4 promotes hyperinsulinisminduced proliferation of rat aortic smooth muscle cells.
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