



Product Information Sheet

Human Retinol binding protein 4, RBP4 ELISA Kit

Catalog No. EK0831
Size 96T
Range 312pg/ml-20,000pg/ml
Sensitivity < 10 pg/ml

Specificity

No detectable cross-reactivity with any other cytokine.

Storage

Store at 4°C for frequent use, at -20°C for infrequent use.

Avoid multiple freeze-thaw cycles (Shipped with wet ice.)

Expiration

Four months at 4°C and eight months at -20°C.

Application

For quantitative detection of human RBP4 in sera, plasma, body fluids, tissue lysates or cell culture supernates.

Principle

Human RBP4 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Human RBP4 specific polyclonal antibodies were precoated onto 96-well plates. The human specific detection polyclonal antibodies were biotinylated. The test samples and biotinylated detection antibodies were added to the wells subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human RBP4 amount of sample captured in plate.

Kit Components

1. Lyophilized recombinant human RBP4 standard: 20ng/tubex2.
2. One 96-well plate precoated with anti- human RBP4 antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- human RBP4 antibody: 130µl, dilution 1:100.
5. Antibody diluent buffer: 12ml.
6. Avidin-Biotin-Peroxidase Complex (ABC): 130µl, dilution 1:100.
7. ABC diluent buffer: 12ml.
8. TMB color developing agent: 10ml.
9. TMB stop solution: 10ml.

Material Required But Not Provided

1. Microplate reader in standard size.
2. Automated plate washer.
3. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection.
4. Clean tubes and Eppendorf tubes.
5. Washing buffer (neutral PBS or TBS).

Preparation of 0.01M **TBS**: Add 1.2g Tris, 8.5g NaCl; 450µl of purified acetic acid or 700µl of concentrated hydrochloric acid to 1000ml H₂O and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

Preparation of 0.01 M **PBS**: Add 8.5g sodium chloride, 1.4g Na₂HPO₄ and 0.2g NaH₂PO₄ to 1000ml distilled water and adjust pH to 7.2-7.6.

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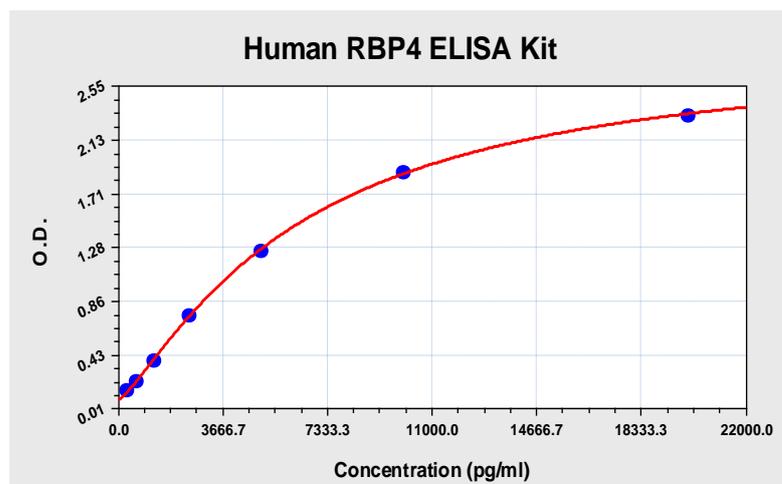
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Finally, adjust the total volume to 1L.

Notice for Application of Kit

1. Before using Kit, spin tubes and bring down all components to bottom of tube.
2. Duplicate well assay was recommended for both standard and sample testing.
3. Don't let 96-well plate dry, dry plate will inactivate active components on plate.
4. In order to avoid marginal effect of plate incubation due to temperature difference (reaction may be stronger in the marginal wells), it is suggested that the diluted ABC and TMB solution will be pre-warmed in 37°C for 30 min before using.

Human RBP4 ELISA Kit-1X96 Well Plate Image



Background

Retinol binding protein 4, plasma, also known as RBP4, belongs to the lipocalin family and is the specific carrier for retinol (vitamin A alcohol) in the blood. It is protein that in humans is encoded by the *RBP4* gene. RBP4 gene resides just centromeric of the cluster of CYP2C genes on 10q24. The mouse *Rbp4* locus is closely linked and just proximal to the locus for phenobarbital-inducible cytochrome P450-2c (*Cyp-2c*) at the distal end of chromosome 19. It delivers retinol from the liver stores to the peripheral tissues. In plasma, the RBP-retinol complex interacts with transthyretin, which prevents its loss by filtration through the kidney glomeruli. A deficiency of vitamin A blocks secretion of the binding protein posttranslationally and results in defective delivery and supply to the epidermal cells. The standard product used in this kit are recombinant mouse B7-1/CD80, D37—K245, consisting of dimer acids with two single stranded. The standard used in this kit is recombinant protein, with E19-L201 aa sequence, the molecular weight is 22kda.

Reference

1. Rask L, Anundi H, Fohlman J, Peterson PA (1987). "The complete amino acid sequence of human serum retinol-binding protein". *Upsala Journal of Medical Sciences* 92 (2): 115–46.
2. Rocchi M, Covone A, Romeo G, Faraonio R, Colantuoni V (March 1989). "Regional mapping of RBP4 to 10q23----q24 and RBP1 to 3q21----q22 in man". *Somatic Cell and Molecular Genetics* 15 (2): 185–90.
3. "Entrez Gene: RBP4 retinol binding protein 4, plasma". M., Covone, A., Romeo, G., Faraonio, R., Colantuoni, V. Regional mapping of RBP4 to 10q23-q24 and RBP1 to 3q21-q22 in man. *Somat. Cell Molec. Genet.* 15: 185-190, 1989.

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