

Retinol Binding Protein (RBP), in serum and urine, for *Optilite*[®] analyzer

General information: structure, function ...

Plasma Retinol Binding Protein, usually known by the acronyms RBP or RBP4, is a low molecular weight protein (21 KDa), produced in the liver and adipose tissues.

In plasma, for the most part RBP is bound to Prealbumin. The complex works as a solubilizer and carrier system of vitamin A (Retinol) to specific receptors in the tissues, and at the same time prevents its loss from oxidation and glomerular filtration, substantially increasing its serum half-life.

The fraction of free RBP (<10%), not bound to Prealbumin, has a short half-life in serum given that it passes freely through the glomerular membrane.

RBP in serum - Clinical Significance

The values of RBP in serum are elevated in type 2 Diabetes Mellitus, obesity, metabolic syndrome, cardiovascular disease and chronic kidney disease.

Decreased values due to proteinuria, hepatocellular carcinoma, hyperparathyroidism, cystic fibrosis or other causes, can pose a serious threat to transport of vitamin A to tissues.

RBP in urine - Clinical Significance

In normal situation, the RBP filtered by the glomerulus is almost completely reabsorbed by the proximal renal tubules, where it is catabolized, and then only very little amount appears in the final excreted urine.

The elevation of urinary excretion of RBP is a good marker of tubular dysfunction due to any cause or pathology (transplants, diabetes, poisoning, etc.), because of its high sensitivity, stability and large dynamic range (a complete blockage of tubular reabsorption elevates the normal values by a factor of 10^4 - 10^5).

Assay Performances and Characteristics

- ➔ **Turbidimetric Immunoassays (TIA)**, enhanced with polystyrene particles, for their use on *Optilite*[®] analyzer.
(*Optilite*[®] is a registered trademark of *Binding Site part of Thermo Fisher Scientific*.)
- ➔ Reagents, Calibrator and Controls In ready-to-use containers.
- ➔ Detection Limit - serum: <5 mg/L
Detection Limit - urine: <0.03 mg/L
- ➔ QR codes for loading analytical parameters into the analyzer. Application version control.

Catalogue

3diag - RBP - Opt Kit

 TD-42667  100 test

EAN/GTIN: 8434477709104

Contains Reagents, Calibrator and Controls

3diag - U-RBP - Opt Kit

 TD-42677  100 test

EAN/GTIN: 8434477709111

Contains Reagents, Calibrator and Controls

Also available for other analytical platforms. For further information, please contact the Customer Support Service at support@3diag.com