ELISA TEST KIT FOR HUMAN CALPROTECTIN

HyCult biotechnology b.v.

Catalog nr HK325 (2x96 determinations)

Description

Calprotectin, also known as MRP-8/MRP-14 or S100A8/A9 heterocomplex, is formed out of the calcium-binding, migration inhibitory factor-related proteins, MRP-8 (S100A8) and MRP-14 (S100A9). The expression of these proteins is largely confined to the cytosol of neutrophils and monocytes. The complex formation of these proteins is calcium-dependent. Calprotectin comprises 60% of the cytoplasmic protein fraction of circulating polymorphonuclear granulocytes and is also found in monocytes, macrophages and ileal tissue eosinophils. Peripheral blood monocytes carry the antigen extra- and intracellularly, neutrophils only intracellularly. Calprotectin has antibacterial, antifungal and immunomodulating and antiproliferative effects. Besides this it is a potent chemotactic factor for neutrophils. Plasma concentrations are elevated in diseases associated with increased neutrophil activity. During intestinal wall inflammation granulocytes transmigrate through the intestinal wall. Therefore calprotectin is also detectable in faeces. Several investigations report that faecal calprotectin is significantly increased in intestinal diseases such as IBD, Chrohn´s disease, ulcerative colitis and in colon cancer.
Normal human plasma contains a calprotectin concentration ranging from 500 to 3000 ng/ml.

Application

The Hbt human Calprotectin ELISA kit (human MRP-8/MRP-14 Elisa; human S100A8/S100A9 Elisa) is intended for the quantitative measurement of the human calprotectin heterodimer in cell culture medium and plasma. It can also be used for measurement of calprotectin in various biological excretions including urine. The kit cannot be used for quantification of the individual MRP-8 (S100A8) or MRP-14 (S100A9) proteins. In plasma samples calprotectin can be measured accurately if samples are diluted at least 60 times. Most reliable results are obtained if EDTA plasma is used.

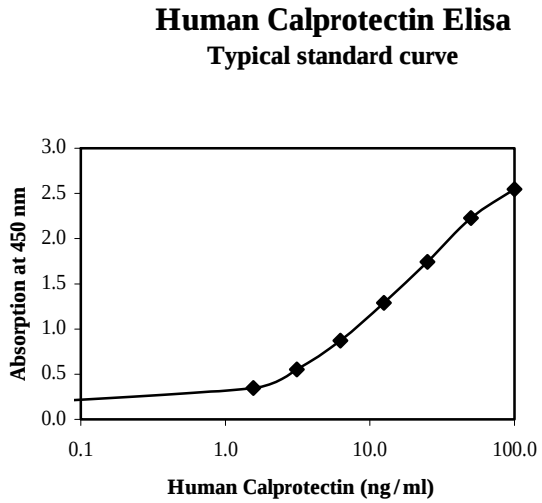
Principle

- The Hbt human Calprotectin assay (human MRP-8/MRP-14 assay; human S100A8/S100A9 assay) is a ready-to-use solid-phase enzyme-linked immunosorbent assay based on the sandwich principle which a working time of 3½ hours.
- The efficient format of 2 plates with twelve disposable 8-well strips allow free choice of batch size for the assay.
- Samples and standards are captured by a solid bound heterodimer specific antibody.
- Biotinylated tracer antibody will bind to captured calprotectin.
- Streptavidin-peroxidase conjugate will bind to the biotinylated tracer antibody.
- Streptavidin-peroxidase conjugate will react with the substrate, tetramethylbenzidine (TMB).
- The enzyme reaction is stopped by the addition of citric acid.
- The absorbance at 450 nm is measured with a spectrophotometer. A standard curve is obtained by plotting the absorbance (linear) versus the corresponding concentrations of the calprotectin standards (log).
- The Calprotectin concentration of samples, which are run concurrently with the standards, can be determined from the standard curve.

Features

- Minimum concentration which can be measured is 1.6 ng/ml calprotectin.
- Measurable concentration range of 1.6-100 ng/ml.

Curve



Storage and stability

Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least six months. After reconstitution the standard is stable for 24 hours at 4°C. For longer stability we recommend to store aliquots at –20°C.

Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and Federal rules in the use of this product. Hbt is not responsible for any patent infringements that might result with the use of or derivation of this product.

Also available

HK314	Human BPI Elisa, 2 x 96 determinations
HK317	Human alpha-Defensins 1-3 (HNP 1-3) Elisa, 2 x 96 determinations
HK319	Human Elastase Elisa, 2 x 96 determinations
HK324	Human MPO Elisa, 2 x 96 determinations