Human Complement C4 ELISA Kit ab108824

Overview

Product name: Human Complement C4 ELISA Kit
Detection method: Colorimetric

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td>3.6%</td>
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<tr>
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<tbody>
<tr>
<td>Overall</td>
<td></td>
<td></td>
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<td>9.1%</td>
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Sample type: Serum, Plasma
Assay type: Competitive
Sensitivity: 0.25 µg/ml
Range: 0.313 µg/ml - 5 µg/ml
Recovery: 94%
Assay time: 3h 00m
Assay duration: Multiple steps standard assay

Reacts with: Human

Product overview:

Complement C4 Human in vitro competitive ELISA (Enzyme-Linked Immunosorbent Assay) kit (ab108834) is designed for the quantitative measurement of Complement C4 levels in plasma and serum.

A Complement C4 specific antibody has been precoated onto 96-well plates and blocked. Standards or test samples are added to the wells and subsequently biotinylated Complement C4 is added and then followed by washing with wash buffer. Streptavidin-Peroxidase Complex is added and unbound conjugates are washed away with wash buffer. TMB is then used to visualize Streptavidin-Peroxidase enzymatic reaction. TMB is catalyzed by Streptavidin-Peroxidase to produce a blue color product that changes into yellow after adding acidic stop solution. The density of yellow coloration is inversely proportional to the amount of Complement C4 captured in plate.
Reactivity with C4 cleavage products (C4a, C4b, C4d) has not been determined.

The entire kit may be stored at -20°C for long term storage before reconstitution - Avoid repeated freeze-thaw cycles.

Platform
Microplate

Properties

Function
Non-enzymatic component of C3 and C5 convertases and thus essential for the propagation of the classical complement pathway. Covalently binds to immunoglobulins and immune complexes and enhances the solubilization of immune aggregates and the clearance of IC through CR1 on erythrocytes. C4A isotype is responsible for effective binding to form amide bonds with immune aggregates or protein antigens, while C4B isotype catalyzes the transacylation of the thioester carbonyl group to form ester bonds with carbohydrate antigens. Derived from proteolytic degradation of complement C4, C4a anaphylatoxin is a mediator of local inflammatory process. It induces the contraction of smooth muscle, increases vascular permeability and causes histamine release from mast cells and basophilic leukocytes.

Tissue specificity
Complement component C4 is expressed at highest levels in the liver, at moderate levels in the adrenal cortex, adrenal medulla, thyroid gland, and the kidney, and at lowest levels in the heart, ovary, small intestine, thymus, pancreas and spleen. The extra-hepatic sites of expression may be important for the local protection and inflammatory response.

Involvement in disease
Complement component 4A deficiency
Systemic lupus erythematosus

Sequence similarities
Contains 1 anaphylatoxin-like domain.
Contains 1 NTR domain.

Post-translational
Prior to secretion, the single-chain precursor is enzymatically cleaved to yield non-identical chains alpha, beta and gamma. During activation, the alpha chain is cleaved by C1 into C4a and C4b,
and C4b stays linked to the beta and gamma chains. Further degradation of C4b by C1 into the inactive fragments C4c and C4d blocks the generation of C3 convertase. The proteolytic cleavages often are incomplete so that many structural forms can be found in plasma. N- and O-glycosylated. O-glycosylated with a core 1 or possibly core 8 glycan.

**Cellular localization**

Secreted.

**Images**

Complement C4 measured in biological fluids showing quantity (microgram) per mL of tested sample

Standard curve: mean of duplicates (+/-SD)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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