**Product Overview**

**Product name**: Human Complement C4 ELISA Kit

**Detection method**: Colorimetric

**Precision**

<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>5.1%</td>
</tr>
</tbody>
</table>

**Inter-assay**

<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>10%</td>
</tr>
</tbody>
</table>

**Sample type**: Cell culture supernatant, Saliva, Milk, Urine, Cerebral Spinal Fluid

**Assay type**: Sandwich (quantitative)

**Sensitivity**: = 41 pg/ml

**Range**: 0.078 ng/ml - 20 ng/ml

**Recovery**: 98%

**Assay time**: 4h 00m

**Assay duration**: Multiple steps standard assay

**Species reactivity**: Reacts with: Human

**Product overview**: Abcam’s Complement C4 Human in vitro ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Complement C4 levels in urine, milk, saliva, CSF and cell culture supernatants.

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 a Complement C4 specific biotinylated detection antibody is added and then followed by washing with wash buffer. Streptavidin- Peroxidase Conjugate 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 directly proportional to the amount of Complement C4 captured in plate.
The entire kit may be stored at -20°C for long term storage before reconstitution - Avoid repeated freeze-thaw cycles.

**Platform**
Microplate

**Properties**

**Storage instructions**
Store at -20°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>100X Streptavidin-Peroxidase Conjugate</td>
<td>1 x 80µl</td>
</tr>
<tr>
<td>10X Diluent N Concentrate</td>
<td>1 x 30ml</td>
</tr>
<tr>
<td>20X Wash Buffer Concentrate</td>
<td>2 x 30ml</td>
</tr>
<tr>
<td>50X Biotinylated Human Complement C4 Antibody</td>
<td>1 x 120µl</td>
</tr>
<tr>
<td>Chromogen Substrate</td>
<td>1 x 8ml</td>
</tr>
<tr>
<td>Complement C4 Microplate (12 x 8 well strips)</td>
<td>1 unit</td>
</tr>
<tr>
<td>Complement C4 Standard</td>
<td>1 vial</td>
</tr>
<tr>
<td>Sealing Tapes</td>
<td>3 units</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 12ml</td>
</tr>
</tbody>
</table>

**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 modifications**
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**

Representative Standard Curve using ab108825

Typical Standard Curve

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

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