

### Canine Complement C3 ELISA Kit ab157697

1 Image

#### Overview

**Product name** Canine Complement C3 ELISA Kit

**Detection method** Colorimetric

**Precision** Intra-assay

Sample	n	Mean	SD	CV%
Overall				< 10%

Inter-assay

Sample	n	Mean	SD	CV%
Overall				< 10%

**Sample type** Serum, Plasma, Other biological fluids

**Assay type** Sandwich (quantitative)

**Sensitivity** = 0.9539 ng/ml

**Range** 6.25 ng/ml - 200 ng/ml

**Recovery** Sample specific recovery

Sample type	Average %	Range
Serum	> 85	% - %

**Assay duration** Multiple steps standard assay

**Species reactivity** **Reacts with:** Dog

**Product overview** Abcam's Complement C3 Dog ELISA kit is an *in vitro* enzyme-linked immunosorbent assay (ELISA) for the quantitative measurement of Complement C3 in biological samples of dog.

In this assay the Complement C3 present in samples reacts with the anti-Complement C3 antibodies which have been adsorbed to the surface of polystyrene microtiter wells. After the removal of unbound proteins by washing, anti-Complement C3 antibodies conjugated with horseradish peroxidase (HRP), are added. These enzyme-labeled antibodies form complexes with the previously bound Complement C3. Following another washing step, the enzyme bound to

the immunosorbent is assayed by the addition of a chromogenic substrate, 3,3',5,5'-tetramethylbenzidine (TMB). The quantity of bound enzyme varies directly with the concentration of Complement C3 in the sample tested; thus, the absorbance, at 450 nm, is a measure of the concentration of Complement C3 in the test sample. The quantity of Complement C3 in the test sample can be interpolated from the standard curve constructed from the standards, and corrected for sample dilution.

**Platform** Microplate

## Properties

**Storage instructions** Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
100X HRP-conjugated anti-dog Complement C3 antibody	1 x 150µl
20X Wash Buffer Concentrate	1 x 50ml
5X Diluent Concentrate	1 x 50ml
Chromogen Substrate Solution	1 x 12ml
Dog Complement C3 Calibrator (Lyophilized)	1 vial
Dog Complement C3 ELISA Microplate	1 unit
Stop Solution	1 x 12ml

**Function** C3 plays a central role in the activation of the complement system. Its processing by C3 convertase is the central reaction in both classical and alternative complement pathways. After activation C3b can bind covalently, via its reactive thioester, to cell surface carbohydrates or immune aggregates.

Derived from proteolytic degradation of complement C3, C3a 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** Plasma.

**Involvement in disease** Defects in C3 are the cause of complement component 3 deficiency (C3D) [MIM:120700]. A rare defect of the complement classical pathway. Patients develop recurrent, severe, pyogenic infections because of ineffective opsonization of pathogens. Some patients may also develop autoimmune disorders, such as arthralgia and vasculitic rashes, lupus-like syndrome and membranoproliferative glomerulonephritis.

Genetic variation in C3 is associated with susceptibility to age-related macular degeneration type 9 (ARMD9) [MIM:611378]. ARMD is a multifactorial eye disease and the most common cause of irreversible vision loss in the developed world. In most patients, the disease is manifest as ophthalmoscopically visible yellowish accumulations of protein and lipid that lie beneath the retinal pigment epithelium and within an elastin-containing structure known as Bruch membrane.

Defects in C3 are a cause of susceptibility to hemolytic uremic syndrome atypical type 5 (AHUS5) [MIM:612925]. An atypical form of hemolytic uremic syndrome. It is a complex genetic disease characterized by microangiopathic hemolytic anemia, thrombocytopenia, renal failure and absence of episodes of enterocolitis and diarrhea. In contrast to typical hemolytic uremic

syndrome, atypical forms have a poorer prognosis, with higher death rates and frequent progression to end-stage renal disease. Note=Susceptibility to the development of atypical hemolytic uremic syndrome can be conferred by mutations in various components of or regulatory factors in the complement cascade system. Other genes may play a role in modifying the phenotype.

#### Sequence similarities

Contains 1 anaphylatoxin-like domain.

Contains 1 NTR domain.

#### Post-translational modifications

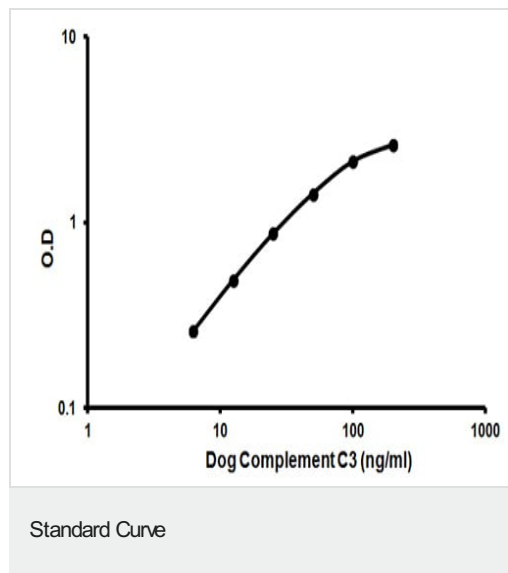
C3b is rapidly split in two positions by factor I and a cofactor to form iC3b (inactivated C3b) and C3f which is released. Then iC3b is slowly cleaved (possibly by factor I) to form C3c (beta chain + alpha' chain fragment 1 + alpha' chain fragment 2), C3dg and C3f. Other proteases produce other fragments such as C3d or C3g.

Phosphorylation sites are present in the extracellular medium.

#### Cellular localization

Secreted.

#### Images



Representative standard curve using ab157697 Complement C3

Dog ELISA Kit

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