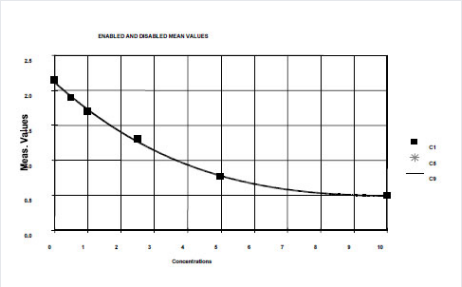
Complement Fragment 4a (C4A) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Complement fragment 4a (C4a), ELISA Kit
Full Product Name	Human Complement fragment 4a ELISA Kit
Product Gene Name	C4a elisa kit
Species Reactivity	Human
Assay Type	Competitive
Samples	Serum, plasma, Cell Culture Supernatants, body fluid and tissue homogenate
Detection Range	2.5-50ng/mL
Sensitivity	0.1ng/mL
Preparation and Storage	Store all reagents at 2-8 degree C.
Molecular Weight	187,704 Da
OMIM	614380
Sample Preparation	We suggest pre-experimenting with neat (undiluted) samples, 1:2 or 1:4 dilutions. Please avoid diluting your samples more than 1:10 as it would exceed the dilution limit set for this kit. If the expected concentration of the target is beyond the detection range of the kit, please contact our technical support team
Product Categories/Family for C4a elisa kit	Immunology
ISO Certification	Manufactured in an ISO 13485:2016 Certified Laboratory.
Related Product Information for C4a elisa kit	**For Samples:** Cell culture fluid & body fluid & tissue homogenate Serum or blood plasma **Intended Uses:** This C4A ELISA kit is intended for laboratory research use only. The stop solution changes the color from blue to yellow and the intensity of the color is measured at 450 nm using a spectrophotometer. In order to measure the concentration of C4A in the sample, this C4A ELISA Kit includes a set of calibration standards. The calibration standards are assayed at the same time as the samples and allow the operator to produce a standard curve of Optical Density versus C4A concentration. The concentration of in the samples is then determined by comparing the O.D. of the samples to the standard curve **Principle of the Assay:** The coated well immunoenzymatic assay for the quantitative measurement of C4A utilizes a multiclonal anti-C4A antibody and an C4A-HRP conjugate. The assay sample and buffer are incubated together with C4A-HRP conjugate in pre-coated plate for one hour. After the incubation period, the wells are decanted and washed five times. The wells are then incubated with a substrate for HRP enzyme. The product of the enzyme-substrate reaction forms a blue colored complex. Finally, a stop solution is added to stop the reaction, which will then turn the solution yellow. The intensity of color is measured spectrophotometrically at 450nm in a microplate reader. The intensity of the color is inversely proportional to the C4A concentration since C4A from samples and C4A-HRP conjugate compete for the anti-C4A antibody binding site. Since the number of sites is limited, as more sites are occupied by C4A from the sample, fewer sites are left to bind C4A-HRP conjugate. Standards of known C4A concentrations are run concurrently with the samples being assayed and a standard curve is plotted relating the intensity of the color (Optical Density) to the concentration of C4A. The C4A concentration in each sample is interpolated from this standard curve.
Other Notes	Small volumes of C4a elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for C4a purchase	MBS731281 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Complement fragment 4a (C4a) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing C4a. The ELISA analytical biochemical technique of the MBS731281 kit is based on C4a antibody-C4a antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect C4a antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, C4a. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).



Typical Testing Data/Standard Curve (for reference only) of C4a elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for C4a. It may not necessarily be applicable to this product.

NCBI GI #	67190748
NCBI GeneID	720
NCBI Accession #	NP_009224.2
UniProt Secondary Accession #	P01028; P78445; Q13160; Q13906; A6H8M8; A6NHJ5; A7E2V2; B0QZR6; B0V2C8; B2RUT6; B7ZVZ6
UniProt Related Accession #	P0C0L4
GenBank Nucleotide #	NM_007293.2
NCBI Official Full Name	complement C4-A isoform 1 preproprotein
NCBI Official Synonym Full Names	complement component 4A (Rodgers blood group)
NCBI Official Symbol	C4A
NCBI Official Synonym Symbols	C4; RG; C4S; CO4; C4A2; C4A3; C4A4; C4A6; C4AD; CPAMD2
UniProt Protein Name	Complement C4-A
UniProt Synonym Protein Names	Acidic complement C4; C3 and PZP-like alpha-2-macroglobulin domain-containing protein 2Cleaved into the following 6 chains:Complement C4 beta chain; Complement C4-A alpha chain; C4a anaphylatoxin; C4b-A; C4d-A; Complement C4 gamma chain
Protein Family	Complement C4
UniProt Gene Name	C4A
UniProt Synonym Gene Names	CO4; CPAMD2
UniProt Entry Name	CO4A_HUMAN
NCBI Protein Information	complement C4-A; acidic C4; C4A anaphylatoxin; Rodgers form of C4; acidic complement C4; C3 and PZP-like alpha-2-macroglobulin domain-containing protein 2

NCBI Summary for C4a	This gene encodes the acidic form of complement factor 4, part of the classical activation pathway. The protein is expressed as a single chain precursor which is proteolytically cleaved into a trimer of alpha, beta, and gamma chains prior to secretion. The trimer provides a surface for interaction between the antigen-antibody complex and other complement components. The alpha chain may be cleaved to release C4 anaphylatoxin, a mediator of local inflammation. Deficiency of this protein is associated with systemic lupus erythematosus and type I diabetes mellitus. This gene localizes to the major histocompatibility complex (MHC) class III region on chromosome 6. Varying haplotypes of this gene cluster exist, such that individuals may have 1, 2, or 3 copies of this gene. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Nov 2011]
UniProt Comments for C4a	C4B: C4 plays a central role in the activation of the classical pathway of the complement system. It is processed by activated C1 which removes from the alpha chain the C4a anaphylatoxin. The remaining alpha chain fragment C4b is the major activation product and is an essential subunit of the C3 convertase (C4b2a) and the C5 convertase (C3bC4b2a) enzymes of the classical complement pathway. Defects in C4B are a cause of susceptibility to systemic lupus erythematosus (SLE). A chronic, inflammatory and often febrile multisystemic disorder of connective tissue. It affects principally the skin, joints, kidneys and serosal membranes. It is thought to represent a failure of the regulatory mechanisms of the autoimmune system. Interindividual copy- number variation (CNV) of complement component C4 and associated polymorphisms result in different susceptibilities to SLE. The risk of SLE susceptibility has been shown to be significantly increased among subjects with only two copies of total C4. A high copy number is a protective factor against SLE. Defects in C4B are the cause of complement component 4B deficiency (C4BD). A rare defect of the complement classical pathway associated with the development of autoimmune disorders, mainly systemic lupus with or without associated glomerulonephritis. Protein type: Secreted, signal peptide; Secreted Chromosomal Location of Human Ortholog: 6p21.3 Cellular Component: extracellular space; extracellular region; plasma membrane Molecular Function: complement binding; endopeptidase inhibitor activity; carbohydrate binding Biological Process: detection of molecule of bacterial origin; regulation of complement activation; innate immune response; opsonization; inflammatory response; complement activation, classical pathway; complement activation Disease: Complement Component 4b Deficiency
Research Articles on C4a	**1.** serum C4a desArg is a potential biomarker for the severity of histological findings in patients with IgA nephropathy.
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