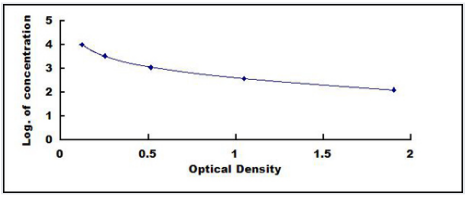
Alpha-2-Macroglobulin (a2M) ELISA Kit for Rat

PRODUCT OVERVIEW

Product Name	Alpha-2-Macroglobulin (a2M), ELISA Kit
Full Product Name	Rat Alpha-2-Macroglobulin (a2M) ELISA Kit
Product Gene Name	a2M elisa kit
Product Synonym Names	A2MG; A2mg; CPAMD5; C3 and PZP-like alpha-2-macroglobulin domain-containing protein 5
Species Reactivity	Rat
Assay Type	Competitive Inhibition
Samples	Serum, Plasma and Other Biological Fluids
Detection Range	123.5-10,000ng/mL
Sensitivity	< 58.4ng/mL
Specificity	This assay has high sensitivity and excellent specificity for detection of Alpha-2-Macroglobulin (a2M). No significant cross-reactivity or interference between Alpha-2-Macroglobulin (a2M) and analogues was observed.
Preparation and Storage	The stability of kit is determined by the loss rate of activity. The loss rate of this kit is less than 5% within the expiration date under appropriate storage condition. To minimize extra influence on the performance, operation procedures and lab conditions, especially room temperature, air humidity, incubator temperature should be strictly controlled. It is also strongly suggested that the whole assay is performed by the same operator from the beginning to the end.
Molecular Weight	163,291 Da
OMIM	M11313 mRNA
3D Structure	ModBase 3D Structure for P01023
Supply Chain Verification	Manufactured in a lab with traceable raw materials. Bulk orders can typically be prepared to the customer's specifications, please inquire.
Application	Enzyme-linked immunosorbent assay for Antigen Detection.
Intra-assay Precision (Precision within an assay)	3 samples with low, middle and high level Alpha-2-Macroglobulin (a2M) were tested 20 times on one plate, respectively.
Inter-assay Precision (Precision between assays)	3 samples with low, middle and high level Alpha-2-Macroglobulin (a2M) were tested on 3 different plates, 8 replicates in each plate.
CV(%) =	SD/meanX100
Intra-Assay	CV<10%
Inter-Assay	CV<12%
ISO Certification	Manufactured in an ISO 9001:2008 and ISO 13485:2003 Certified Laboratory.
Related Product Information for a2M elisa kit	This assay employs the competitive inhibition enzyme immunoassay technique. A monoclonal antibody specific to Alpha-2-Macroglobulin (a2M) has been pre-coated onto a microplate. A competitive inhibition reaction is launched between biotin labeled Alpha-2-Macroglobulin (a2M) and unlabeled Alpha-2-Macroglobulin (a2M) (Standards or samples) with the pre-coated antibody specific to Alpha-2-Macroglobulin (a2M). After incubation the unbound conjugate is washed off. Next, avidin conjugated to Horseradish Peroxidase (HRP) is added to each microplate well and incubated. The amount of bound HRP conjugate is reverse proportional to the concentration of Alpha-2-Macroglobulin (a2M) in the sample. After addition of the substrate solution, the intensity of color developed is reverse proportional to the concentration of Alpha-2-Macroglobulin (a2M) in the sample.

Other Notes	Small volumes of a2M 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 a2M purchase	MBS2700439 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Alpha-2-Macroglobulin (a2M) 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 a2M. The ELISA analytical biochemical technique of the MBS2700439 kit is based on a2M antibody-a2M antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect a2M antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, a2M. 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 a2M elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for a2M. It may not necessarily be applicable to this product.

NCBI GI #	66932947
NCBI GeneID	2
NCBI Accession #	NP_000005.2
UniProt Primary Accession #	P01023
UniProt Secondary Accession #	Q13677; Q59F47; Q5QTS0; Q68DN2; Q6PIY3; Q6PN97
UniProt Related Accession #	P01023
GenBank Nucleotide #	NM_000014.5
NCBI Official Full Name	alpha-2-macroglobulin isoform a
NCBI Official Synonym Full Names	alpha-2-macroglobulin
NCBI Official Symbol	A2M
NCBI Official Synonym Symbols	A2MD; CPAMD5; FWP007; S863-7
UniProt Protein Name	Alpha-2-macroglobulin
UniProt Synonym Protein Names	C3 and PZP-like alpha-2-macroglobulin domain-containing protein 5
Protein Family	Alpha-2-macroglobulin
UniProt Gene Name	A2M
UniProt Synonym Gene Names	CPAMD5; Alpha-2-M
NCBI Protein Information	alpha-2-macroglobulin
NCBI Summary for a2M	The protein encoded by this gene is a protease inhibitor and cytokine transporter. It uses a bait-and-trap mechanism to inhibit a broad spectrum of proteases, including trypsin, thrombin and collagenase. It can also inhibit inflammatory cytokines, and it thus disrupts inflammatory cascades. Mutations in this gene are a cause of alpha-2-macroglobulin deficiency. This gene is implicated in Alzheimer's disease (AD) due to its ability to mediate the clearance and degradation of A-beta, the major component of beta-amyloid deposits. A related pseudogene, which is also located on the p arm of chromosome 12, has been identified. [provided by RefSeq, Nov 2016]

UniProt Comments for a2M	Is able to inhibit all four classes of proteinases by a unique 'trapping' mechanism. This protein has a peptide stretch, called the 'bait region' which contains specific cleavage sites for different proteinases. When a proteinase cleaves the bait region, a conformational change is induced in the protein which traps the proteinase. The entrapped enzyme remains active against low molecular weight substrates (activity against high molecular weight substrates is greatly reduced). Following cleavage in the bait region, a thioester bond is hydrolyzed and mediates the covalent binding of the protein to the proteinase.
Research Articles on a2M	**1.** The blood coagulation pathway may be a key regulatory network pathway contributing to the allergic inflammatory response in AR patients. A2M, which is regulated by STAT3, may be an important protein in the pathogenesis of allergic rhinitis in AR patients.
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