

Product Specification Sheet

**Rat Alpha 2-Macroglobulin (A2MG) Antibodies and controls**

# A2MG12-A	Rabbit Anti-Rat Alpha 2-Macroglobulin (A2MG) protein IgG, aff pure	<b>Size:</b> 100 ul
# A2MG12-C	Rat Alpha 2-Macroglobulin (A2MG) protein control for WB	<b>Size:</b> 100 ul

Alpha-2-Macroglobulin, also known as  $\alpha$ 2-macroglobulin and abbreviated as  $\alpha$ 2M and A2M, is a large plasma protein found in the blood. It is produced by the liver, and is a major component of the alpha-2 band in protein electrophoresis. Alpha-2-macroglobulin is composed of four identical subunits bound together by -S-S- bonds. Alpha-2-macroglobulin is able to inactivate an enormous variety of proteinases (including serine-, cysteine-, aspartic- and metalloproteinases). Alpha-2-macroglobulin has in its structure a 35 aminoacid "bait" region. Proteinases binding and cleaving the bait region become bound to  $\alpha$ 2M. The proteinase- $\alpha$ 2M complex is recognised by macrophage receptors and cleared from the system. It functions as an inhibitor of coagulation by inhibiting thrombin. It functions as an inhibitor of fibrinolysis by inhibiting plasmin and kallikrein.

Alpha-2-macroglobulin levels are increased in nephrotic syndrome, a condition wherein the kidneys start to leak out some of the smaller blood proteins. Because of its size,  $\alpha$ 2-macroglobulin is retained in the bloodstream. Increased production of all proteins means  $\alpha$ 2-macroglobulin concentration increases. This increase has little adverse effect on the health, but is used as a diagnostic clue. Longstanding chronic renal failure can lead to amyloid by alpha-2-macroglobulin (see main article: amyloid).

A common variant (29.5%) (polymorphism) of  $\alpha$ 2-macroglobulin leads to increased risk of Alzheimer's disease.  $\alpha$ -2-macroglobulin binds to and removes the active forms of the gelatinase (MMP-2 and MMP-9) from the circulation via scavenger receptors on the phagocytes.

Human A2M protein (24-1474 mature peptide.; 690-728 bait region; protein accession #P01023-1, Native Mol. Wt 725 Kda). Serum concn ~2.4 mg/ml in men and 2.9 mg/ml in women.

**Source of Antigen, Antibodies, and positive controls**

<b>Antigen</b>	Purified rat A2MG protein #A2MG16-N-25
<b>Ab Host/type</b>	Rabbit, Poly antiserum # <b>A2MG12-A</b>
2-Ab	<b>Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)</b>

Rat A2MG purified protein (>95%, ~160 Kda). For Western blot +ve control, purified protein (Cat # A2MG12-C) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of A2MG12-C for good visibility with antibody Cat # A2MG12-S. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It is not recommended to use this preparation as quantitative protein standard. It has about 50-200 ng A2MG/10 ul.

**Stability:** 6-12 months at -20oC or below.

**Form & Storage of Antibodies/Peptide Control**

**Purified antibody**

100 ug/vial solution lyophilized powder in PBS, 0.1% BSA and 0.05% sodium azide

**Reconstitute powder** 100 ul water

**Recommended Usage**

**Western Blotting** 1:500-1:2000 of primary antibody using Chemiluminescence technique). A2MG protein is ~160 kda.

**ELISA** (1:1000-1:10, 000; using 50-100 ng of control protein/well).

**Histochemistry & Immunofluorescence:** not tested. We recommend a antibody testing at 5-20 ug/ml.

**General References:** Anderson GR (1995) JBC 270, 25133-41; De Boer JP (1993) Infect. Immun. 61, 5035-5045; Blacker Dr (1998) Nat. Genet. 19, 357-360;

\*This product is for In vitro research use only.

**Related material available from ADI**

AntibodyType	Catalog#	ProdDescription	Alpha	2-
Goat-Poly	A2MG11-A	Anti-human Macroglobulin (A2M) protein IgG, unlabeled		
Goat-Poly	A2MG11-BT	Anti-human Macroglobulin (A2M) protein IgG, Biotin conjugate	Alpha	2-
	A2MG11-C	Alpha 2-Macroglobulin (A2M), Human protein control for WB		
Goat-Poly	A2MG11-HRP	Anti-human Macroglobulin (A2M) protein IgG, HRP conjugate	Alpha	2-
Rabbit-Poly	A2MG12-A	Anti-Rat Macroglobulin IgG, aff pure	Alpha 2	(A2M)
	A2MG12-C	Rat Macroglobulin (A2M) purified protein control for WB	Alpha	2-
Chicken-Poly	A2MG13-A	Anti-Human Macroglobulin (A2M) IgG/Y	Alpha	2
	A2MG15-N	Alpha 2-Macroglobulin (A2M), Human Plasma		
	A2MG16-N-25	Rat Macroglobulin (A2M) purified protein	Alpha	2-
A2MG12-A-C				111003A

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