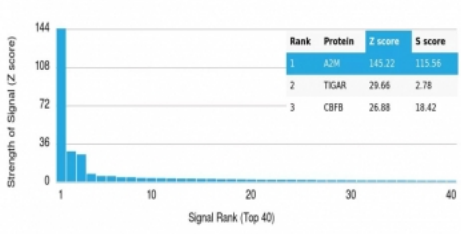
Alpha-2-Macroglobulin Antibody / A2M Protease Inhibitor Antibody [clone A2M/6553] (V5392)

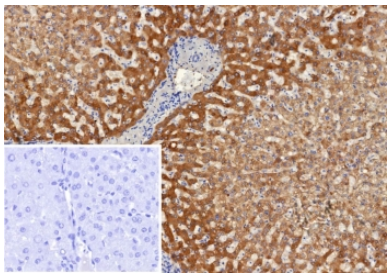
Catalog No.	Formulation	Size
V5392-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5392-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5392SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

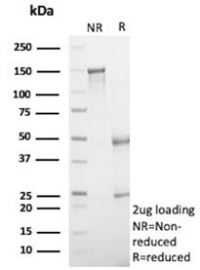
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	A2M/6553
Purity	Protein A/G affinity
UniProt	P01023
Localization	Secreted in plasma
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This Alpha-2-Macroglobulin Antibody / A2M Protease Inhibitor Antibody is available for research use only.



Alpha-2-Macroglobulin Antibody Protein Microarray Validation. Protein microarray analysis of Alpha-2-Macroglobulin Antibody / A2M Protease Inhibitor Antibody, clone A2M/6553, using a HuProt array containing more than 19,000 full-length human proteins. The intended A2M target produces a dominant signal with a Z-score of approximately 145 and is strongly separated from the next-highest signal, resulting in an S-score of approximately 116. The Z-score represents signal strength relative to the array mean, while the S-score represents separation of the intended target from the next-highest signal. This strong target separation supports the specificity of the Alpha-2-Macroglobulin Antibody.



Alpha-2-Macroglobulin Antibody in Human Liver IHC. Immunohistochemistry testing of Alpha-2-Macroglobulin Antibody / A2M Protease Inhibitor Antibody, clone A2M/6553, in FFPE human liver tissue. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9, 10 mM Tris with 1 mM EDTA for 20 min followed by cooling prior to staining. Strong, widespread cytoplasmic immunoreactivity is observed in hepatocytes. The inset shows the secondary-only negative control, with PBS used in place of the primary antibody.



Alpha-2-Macroglobulin Antibody A2M/6553 Purity Analysis by SDS-PAGE. Electrophoretic analysis of purified, BSA-free Alpha-2-Macroglobulin Antibody / A2M Protease Inhibitor Antibody, clone A2M/6553, with 2 ug loaded under non-reducing (NR) and reducing (R) conditions. The non-reduced sample shows predominantly intact antibody at approximately 150 kDa, while the reduced sample shows major bands at approximately 50 and 25 kDa corresponding to antibody heavy and light chains, respectively.

Description

Alpha-2-Macroglobulin Antibody / A2M Protease Inhibitor Antibody recognizes alpha-2-macroglobulin, a large plasma glycoprotein encoded by the A2M gene. A2M is a broad-spectrum protease inhibitor capable of interacting with proteases from multiple catalytic classes, including serine, cysteine, aspartic and metalloproteases. The protein is abundant in plasma and is produced primarily by the liver, although expression also occurs in other tissues and cell types. Through its ability to capture active proteases, alpha-2-macroglobulin contributes to regulation of extracellular proteolysis and maintenance of tissue homeostasis.

A2M inhibits proteases through a distinctive molecular-trap mechanism. Cleavage of a protease-sensitive bait region induces a major conformational change in the A2M molecule, physically entrapping the protease and restricting its access to larger protein substrates. This structural rearrangement also exposes receptor-binding regions that promote recognition and clearance of A2M-protease complexes. The low-density lipoprotein receptor-related protein 1 (LRP1) is an important receptor involved in this process, connecting protease inhibition with receptor-mediated removal of activated A2M complexes.

In addition to protease regulation, alpha-2-macroglobulin can bind a variety of growth factors, cytokines and other signaling molecules. These interactions have led to research into A2M in inflammation, extracellular matrix remodeling, coagulation, tissue injury and cellular signaling. Altered A2M abundance or activity has also been investigated in neurological disease, liver disease, cancer and other conditions involving changes in protease activity or tissue remodeling. These diverse functions make A2M relevant to research spanning protease biology, extracellular homeostasis and disease-associated signaling.

Clone A2M/6553 is a mouse monoclonal antibody generated against recombinant human A2M protein and purified by Protein A/G affinity chromatography. The antibody recognizes human alpha-2-macroglobulin and has been evaluated using tissue-based staining and a HuProt protein microarray containing more than 19,000 full-length human proteins. NSJ Bioreagents provides this Alpha-2-Macroglobulin Antibody for research into A2M biology, protease regulation and extracellular protein homeostasis. An A2M Protease Inhibitor Antibody can support investigation of the mechanisms regulating extracellular proteolytic activity.

Explore our Signal Transduction Antibodies page for additional reagents targeting proteins involved in extracellular signaling, receptor-mediated regulation and cellular responses.

Application Notes

Optimal dilution of the Alpha-2-Macroglobulin Antibody / A2M Protease Inhibitor Antibody should be determined by the

researcher.

Immunogen

A human recombinant A2M protein fragment (within amino acids 604-748) was used as the immunogen for the Alpha-2-Macroglobulin antibody.

Storage

Aliquot the Alpha-2-Macroglobulin antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Alpha-2-Macroglobulin antibody, A2M antibody, alpha-2-M antibody, alpha-2-macroglobulin antibody, protease inhibitor alpha-2-macroglobulin antibody

Copyright © NSJ Bioreagents. All rights reserved.