

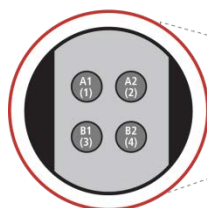
MSD® Human A2M Kit

For quantitative determination in human serum and plasma

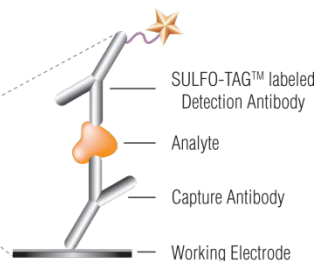
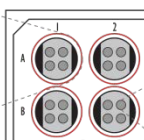


Alzheimer's Disease
BioProcess
Cardiac
Cell Signaling
Clinical Immunology
Cytokines
Growth Factors
Hypoxia
Immunogenicity
Inflammation
Metabolic
Oncology
Toxicology
Vascular

1. **A2M**
2. *BSA blocked*
3. *BSA blocked*
4. *BSA blocked*



MSD MULTI-SPOT®
96-Well 4-Spot Plate



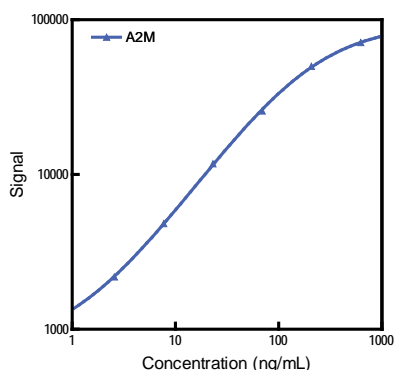
Alpha-2-macroglobulin (A2M) is the largest non-immunoglobulin protein present in plasma and a major representative of the alpha-macroglobulin family, which includes complementary proteins C3 and C4 as well as pregnancy zone protein (PZP). A2M can be locally synthesized by macrophages, fibroblasts, and adrenocortical cells,¹ but plasma A2M levels are mainly determined by liver synthesis. A2M is a 720 kDa protein composed of four identical 180 kDa subunits, each with 5 different reactive sites.¹ A2M functions as an antiproteinase by inhibiting all four classes of proteinases (including serine-, cysteine-, aspartic- and metalloproteinases).² Due to its ability to inhibit plasma proteinases, A2M functions as an inhibitor of fibrinolysis and coagulation via plasmin/kallikrein and thrombin, respectively.³ In addition to trapping proteinases, A2M binds to many cytokines and growth factors including platelet-derived growth factor, basic fibroblast growth factor, TGF- β , insulin, and IL-1 β .¹ Plasma A2M levels are used as a diagnostic biomarker for kidney failure in nephrotic syndrome.⁴ A2M also associates with amyloid-beta in the brain and is a late stage marker of Alzheimer's disease.⁵ The assay is available on 96-well, 4-spot plates. Representative data from the assay is presented below. Visit www.mesoscale.com for a complete listing of our products.

Catalog Numbers

Human A2M Kit	
Kit Size	Catalog #
1 plate	K151JQD-1
5 plates	K151JQD-2
25 plates	K151JQD-4

Assay Sensitivity

The following standard curves illustrate the dynamic range of the Human A2M assay.



A2M	
LLOD Range (ng/mL)	0.908–0.958

The lower limit of detection (LLOD) is a calculated concentration based on a signal 2.5 standard deviations above the background (zero calibrator blank). The LLLOD shown above was calculated based on 2 runs.

Ordering Information

MSD Customer Service
Phone: 1-301-947-2085
Fax: 1-301-990-2776
Email: CustomerService@mesoscale.com

Company Address

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A division of
Meso Scale Diagnostics, LLC.
1601 Research Boulevard
Rockville, MD 20850 USA

www.mesoscale.com®

MSD Advantage

- **Multiplexing:** Multiple analytes can be measured in one well using typical sample volumes of 25 μ L or less without compromising speed or performance
- **Large dynamic range:** Linear range of up to five logs enables the measurement of native levels of biomarkers in normal and diseased samples without multiple dilutions
- **Minimal background:** The stimulation mechanism (electricity) is decoupled from the response (light signal), minimizing matrix interference
- **Simple protocols:** Only labels bound near the electrode surface are excited, enabling assays with fewer washes
- **Flexibility:** Labels are stable, non-radioactive, and conveniently conjugated to biological molecules
- **High sensitivity and precision:** Multiple rounds of label excitation and emission enhance light levels and improve sensitivity

For a complete list of products, please visit our website at www.mesoscale.com.

For Research Use Only.
Not for use in diagnostic procedures.

MSD Inflammation Assays

References

1. Borth W. Alpha 2-macroglobulin, a multifunctional binding protein with targeting characteristics. *FASEB J.* 1992 Dec;6(15):3345-53
2. Harpel PC. Studies on human plasma alpha 2-macroglobulin-enzyme interactions. Evidence for proteolytic modification of the subunit chain structure. *J Exp Med.* 1973 Sep 1;138(3):508-21.
3. de Boer JP, et al. Alpha-2-macroglobulin functions as an inhibitor of fibrinolytic, clotting, and neutrophilic proteinases in sepsis: studies using a baboon model. *Infect Immun.* 1993 Dec;61(12):5035-43.
4. de Sain-van der Velden MG, et al. Plasma alpha 2 macroglobulin is increased in nephrotic patients as a result of increased synthesis alone. *Kidney Int.* 1998 Aug;54(2):530-5.
5. Kovacs DM. alpha2-macroglobulin in late-onset Alzheimer's disease *Exp Gerontol.* 2000 Jul;35(4):473-9..

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