Human α1-Microglobulin Antibody

Monoclonal Mouse IgG_1 Clone # 784917

Catalog Number: MAB7724

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human α1-Microglobulin in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant rat α1-Microglobulin is observed.
Source	Monoclonal Mouse IgG_1 Clone # 784917
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human α1−Microglobulin Gly20-Val203 Accession # P02760
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

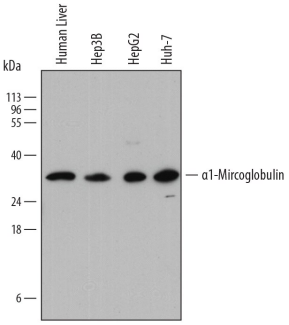
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Immunocytochemistry	8-25 µg/mL	See Below

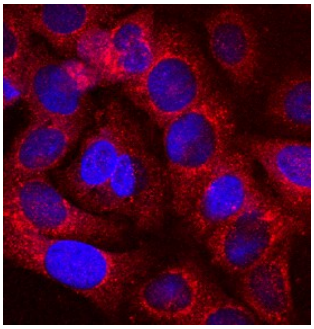
DATA

Western Blot



Detection of Human α1-Microglobulin by Western Blot. Western blot shows lysates of human liver tissue, Hep3B human hepatocellular carcinoma cell line, HepG2 human hepatocellular carcinoma cell line, and Huh-7 human hepatoma cell line. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human α1-Microglobulin Monoclonal Antibody (Catalog # MAB7724) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for α1-Microglobulin at approximately 30 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



α1-Microglobulin in HepG2 Human Cell Line. α1-Microglobulin was detected in immersion fixed HepG2 human hepatocellular carcinoma cell line using Mouse Anti-Human α1-Microglobulin Monoclonal Antibody (Catalog # MAB7724) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human α1-Microglobulin (alpha1-m/A1M; also protein HC) is a secreted, 31-32 kDa glycoprotein member of the lipocalin family, calycin superfamily of molecules. It is expressed by hepatocytes, keratinocytes, and endodermal derivatives in the embryo. α1-Microglobulin appears to act as a heme scavenger, protecting cells and collagen against oxidative damage. It also acts as an immunosuppressant, inhibiting polyclonal lymphocyte activation and dampening granulocyte migration in response to chemokines. α1-Microglobulin circulates either as a monomer, or bound to IgA, albumin or prothrombin. Human α1-Microglobulin is generated through cleavage of a precursor molecule termed AMBP. This AMBP should not be confused with AMBP-1, a 120-140 kDa adrenomedullin-binding protein that is also known as Complement Factor H. The AMBP precursor contains a 19 aa signal sequence, an N-terminal 183 aa α1-Microglobulin protein (aa 20-203), and a C-terminal serine protease inhibitor termed bikunin (aa 206-352). α1-Microglobulin possesses one lipocalin domain (aa 42-186). Although cleavage of AMBP in the Golgi apparatus typically generates a 31 kDa α1-Microglobulin and 28 kDa bikunin molecule, the 60-65 kDa AMBP precursor can also be released intact. α1-Microglobulin will undergo extracellular processing, generating a 30 kDa isoform that is missing aa 199-203. There is one splice variant that shows a deletion of aa 48-57. Over aa 20-203, human α1-Microglobulin shares 76% aa sequence identity with both mouse and rat α1-Microglobulin.

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