

DESCRIPTION

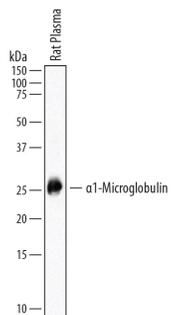
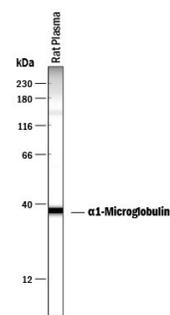
Species Reactivity	Rat
Specificity	Detects rat α 1-Microglobulin in ELISAs. In direct ELISAs, no cross-reactivity with recombinant human α 1-Microglobulin is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 771803
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant rat α 1-Microglobulin Asp20-Ala202 Accession # Q64240
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m 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 μ g/mL	See Below
Simple Western	20 μ g/mL	See Below

DATA

<p>Western Blot</p>  <p>Detection of Rat α1-Microglobulin by Western Blot. Western blot shows rat plasma. PVDF membrane was probed with 2 μg/mL of Mouse Anti-Rat α1-Microglobulin Monoclonal Antibody (Catalog # MAB7720) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for α1-Microglobulin at approximately 26 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Simple Western</p>  <p>Detection of Rat α1-Microglobulin by Simple Western™. Simple Western lane view shows rat plasma, loaded at 0.5 mg/mL. A specific band was detected for α1-Microglobulin at approximately 37 kDa (as indicated) using 20 μg/mL of Mouse Anti-Rat α1-Microglobulin Monoclonal Antibody (Catalog # MAB7720). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.</p> 
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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. <ul style="list-style-type: none"> • 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

Rat α 1-Microglobulin (alpha1-m/A1M; also protein HC) is a secreted 25-26 kDa glycoprotein member of the lipocalin family, calycin superfamily of molecules. It is expressed by hepatocytes, keratinocytes, and endodermal derivatives in the embryo. α 1-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. α 1-Microglobulin circulates either as a monomer, or bound to IgA, albumin or prothrombin. Rat α 1-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 α 1-Microglobulin protein (aa 20-202), and a C-terminal serine protease inhibitor termed bikunin (aa 205-349). α 1-Microglobulin possesses one lipocalin domain (aa 41-186). Although cleavage of AMBP in the Golgi apparatus typically generates a 25 kDa α 1-Microglobulin and 28 kDa bikunin molecule, the 55-65 kDa AMBP precursor can also be released intact. In human, α 1-Microglobulin will undergo extracellular processing, generating an isoform that is missing the C-terminal four amino acids. There are four potential isoform variants. One utilizes an alternative start site at Met181, a second contains an Asn substitution for aa 112-228, a third possesses an 11 aa substitution for aa 1-141, and a fourth shows a 17 aa substitution for aa 201-349. Over aa 20-202, rat α 1-Microglobulin shares 76% and 86% aa sequence identity with human and mouse α 1-Microglobulin, respectively