Mouse Legumain/Asparaginyl Endopeptidase Antibody

Monoclonal Rat IgG_{2A} Clone # 301417

Catalog Number: MAB2058

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Legumain/Asparaginyl Endopeptidase in direct ELISAs and Western blots. In Western blots, approximately 25% cross-reactivity with recombinant human Legumain is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 301417
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Legumain/Asparaginyl Endopeptidase Val18-Tyr435 Accession # O89017
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.

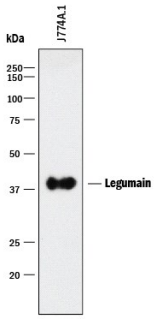
APPLICATIONS

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

DATA

Western Blot



Detection of Mouse Legumain/Asparaginyl Endopeptidase by Western Blot. Western blot shows lysates of J774A.1 mouse reticulum cell sarcoma macrophage cell line. PVDF membrane was probed with 2 µg/mL of Rat Anti-Mouse Legumain/Asparaginyl Endopeptidase Monoclonal Antibody (Catalog # MAB2058) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for Legumain/Asparaginyl Endopeptidase at approximately 37 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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

Legumain is a lysosomal cysteine protease found in all mouse tissues examined, but was particularly abundant in kidney and placenta (1). Legumain plays a pivotal role in the endosomal/lysosomal degradation system because the Legumain deficiency causes the accumulation of pro cathepsins B, H and L, another group of lysosomal cysteine proteases (2). Over-expression of Legumain in tumors is significant for invasion/metastasis (3). Also known as asparaginyl endopeptidase, it specifically cleaves peptide bonds with Asn at the P1 position. Nevertheless, it also cleaves peptide bonds with Asp at the P1 position. Auto-activation of pro Legumain involves both types of cleavage, which results in the removal of the pro peptides in both C- and N-termini (4). In addition, Legumain activates pro MMP-2 and processes bacterial antigens for MHC class II presentation and pro thymosin α to thymosin α_1 and thymosin α_{11}, two acidic peptides with immunoregulatory properties (5-7). Mouse Legumain is synthesized as a 435 amino acid precursor with a signal peptide (residues 1 to 17). The pro enzyme (residues 18 to 435) was expressed with an N-terminal His tag. The purified pro enzyme can be activated under the conditions as described above. Legumain activity can be inhibited by rmCystatin C and recombinant human cystatins C and E/M (R&D Systems, Catalog # 1238-PI, 1196-PI, and 1286-PI).

References:

1. Chen, J.M. *et al.* (1998) Biochem. J. **335**:111.
2. Shirahama-Noda, K. *et al.* (2003) J. Biol. Chem. **278**:33194.
3. Liu, C. *et al.* (2003) Cancer Res. **63**: 2957.
4. Li D.N. *et al.* (2003) J. Biol. Chem. **278**:38980.
5. Chen, J.M. *et al.* (2001) Biol. Chem. **382**:777.
6. Schwarz, G. *et al.* (2002) Biol. Chem. **383**:1813.
7. Sarndeses, C.S. *et al.* (2003) J. Biol. Chem. **278**:13286.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956