

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Legumain/Asparaginyl Endopeptidase (aa18-433) in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant mouse Legumain is observed. Recognizes the pro form of human Legumain and does not recognize the mature form (aa 18-323).
Source	Monoclonal Mouse IgG _{2A} Clone # 312114
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0-derived recombinant human Legumain/Asparaginyl Endopeptidase Ile18-Tyr433 Accession # Q99538
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 either lyophilized or 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	1 µg/mL	Recombinant Human Legumain (Catalog # 2199-CY) under non-reducing conditions only
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Legumain (Catalog # 2199-CY), see our available Western blot detection antibodies

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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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

Legumain is a lysosomal cysteine protease whose activity is found in several tissues tested (1, 2). 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 (3). Over-expression of Legumain in tumors is significant for invasion/metastasis (4). 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 the cleavage, which result in the removal of the pro peptides in both C- and N-termini (5). In addition, Legumain activates pro MMP-2 and processes bacterial antigens for MHC class II presentation and pro thymosin α to thymosin α₁ and thymosin α₁₁, two acidic peptides with immunoregulatory properties (6-8). Human Legumain is synthesized as a 433 amino acid precursor with a signal peptide (residues 1-17) and a pro enzyme (residues 18-433). The activity of Legumain can be inhibited by Cystatins C and E/M.

References:

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3. Shirahama-Noda, K. *et al.* (2003) *J. Biol. Chem.* **278**:33194.
4. Liu, C. *et al.* (2003) *Cancer Res.* **63**: 2957.
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