

## DESCRIPTION

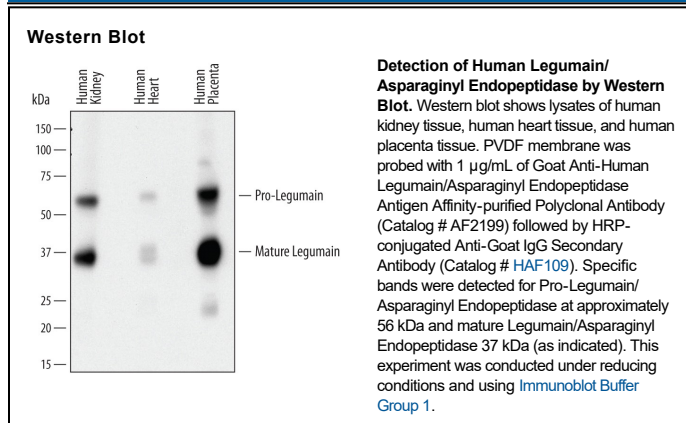
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Legumain/Asparaginyl Endopeptidase in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Legumain/Asparaginyl Endopeptidase Ile18-Tyr433 Accession # Q99538
<b>Formulation</b>	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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	See Below
<b>Immunoprecipitation</b>	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Legumain (Catalog # 2199-CY), <a href="#">see our available Western blot detection antibodies</a>

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**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  $\alpha$  to thymosin  $\alpha_1$  and thymosin  $\alpha_{11}$ , 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). The pro enzyme (residues 18-433) was expressed with an N-terminal His tag. This activity of Legumain can be inhibited by recombinant human (rh) Cystatin C and rhCystatin E/M and recombinant mouse Cystatin C (R&D Systems, Catalog # 1196-PI, 1286-PI and 1238-PI, respectively).

**References:**

1. Chen, J.-M. *et al.* (1997) *J. Biol. Chem.* **272**:8090.
2. Tanaka, T. *et al.* (1996) *Cytogenet. Cell Genet.* **74**:120.
3. Shirahama-Noda, K. *et al.* (2003) *J. Biol. Chem.* **278**:33194.
4. Liu, C. *et al.* (2003) *Cancer Res.* **63**: 2957.
5. Li D.N. *et al.* (2003) *J. Biol. Chem.* **278**:38980.
6. Chen, J.M. *et al.* (2001) *Biol. Chem.* **382**:777.
7. Schwarz, G. *et al.* (2002) *Biol. Chem.* **383**:1813.
8. Sarndeses, C.S. *et al.* (2003) *J. Biol. Chem.* **278**:13286.