Mouse/Rat Cathepsin L Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1515

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	Detects mouse Cathepsin L in direct ELISAs and Western blots. In Western blots, approximately 25% cross-reactivity with recombinant human Cathepsin L is observed, and less than 1% cross-reactivity with recombinant mouse (rm) Cathepsin A, rmCathepsin B, rmCathepsin C, rmCathepsin D, rmCathepsin E, rmCathepsin H, rmCathepsin X/Z/P is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Cathepsin L Thr18-Asn334 Accession # P06797
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.

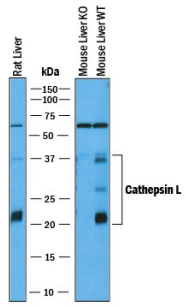
APPLICATIONS

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	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below

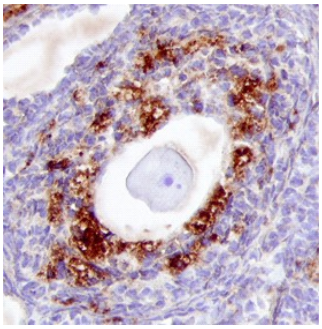
DATA

Western Blot



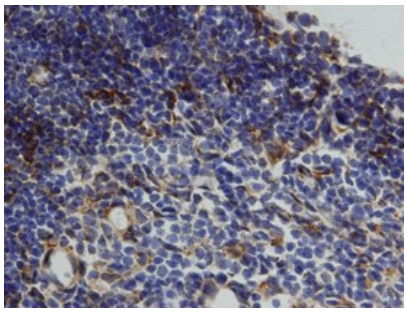
Detection of Mouse and Rat Cathepsin L by Western Blot. Western blot shows lysates of rat liver tissue, mouse liver tissue (wild type), and mouse liver tissue (knock out). PVDF membrane was probed with 1 µg/mL of Goat Anti-Mouse Cathepsin L Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1515) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for Cathepsin L at approximately 22-38 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



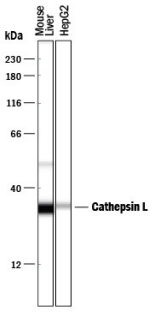
Cathepsin L in Mouse Ovary. Cathepsin L was detected in perfusion fixed frozen sections of mouse ovary using 15 µg/mL Goat Anti-Mouse Cathepsin L Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1515) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Immunohistochemistry



Cathepsin L in Mouse Thymus. Cathepsin L was detected in perfusion fixed frozen sections of mouse thymus using 15 µg/mL Goat Anti-Mouse Cathepsin L Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1515) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS0028) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Simple Western



Detection of Mouse Cathepsin L by Simple Western™. Simple Western lane view shows lysates of mouse liver tissue and HepG2 human hepatocellular carcinoma cell line, loaded at 0.2 mg/mL. Specific bands were detected for Cathepsin L at approximately 51 and 34 kDa (as indicated) using 10 µg/mL of Goat Anti-Mouse Cathepsin L Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1515) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.

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BACKGROUND

Cathepsin L is a lysosomal cysteine protease expressed in most eukaryotic cells. Cathepsin L is known to hydrolyze a number of proteins, including the proform of urokinase-type plasminogen activator, which is activated by Cathepsin L cleavage (1). Cathepsin L has also been shown to proteolytically inactivate α_1-antitrypsin and secretory leucoprotease inhibitor, two major protease inhibitors of the respiratory tract (2). These observations, combined with the demonstration of increased Cathepsin L activity in the epithelial lining fluid of the lungs of emphysema patients, have led to the suggestion that the enzyme may be involved in the progression of this disease. Cathepsin L has also been identified as a major excreted protein of transformed fibroblasts, indicating the enzyme could be involved in malignant tumor growth (3). In Cathepsin L-deficient mice, it appears to play a critical role in cardiac morphology and function, epidermal homeostasis, regulation of the hair cycle, and MHC class II-mediated antigen presentation in cortical epithelial cells of the thymus (4, 5). Mouse Cathepsin L is synthesized as a 334 amino acid precursor with a signal peptide (residues 1-17), a pro region (residues 18-113), and a mature chain (residues 114-334).

References:

1. Goretzki, L. *et al.* (1992) FEBS Lett. **297**:112.
2. Taggart, C.C. *et al.* (2001) J. Biol. Chem. **276**:33345.
3. Gottesman, M.M. and F. Cabral (1981) Biochemistry **20**:1659.
4. Stypmann, J. *et al.* (2002) Proc. Natl. Acad. Sci. USA **99**: 6234.
5. Reinheckel, T. *et al.* (2001) Biol. Chem. **382**:735.

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