Mouse Cathepsin D Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1029

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Cathepsin D in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Cathepsin D Ile21-Leu410 Accession # Q3UCD9
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.

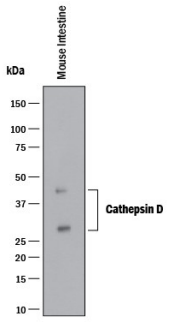
APPLICATIONS

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	See Below
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Mouse Cathepsin D (Catalog # 1029-AS), see our available Western blot detection antibodies

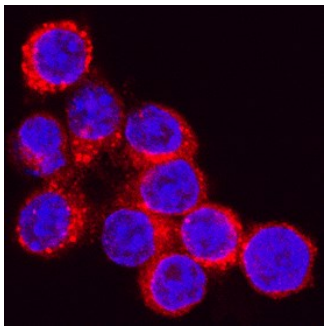
DATA

Western Blot



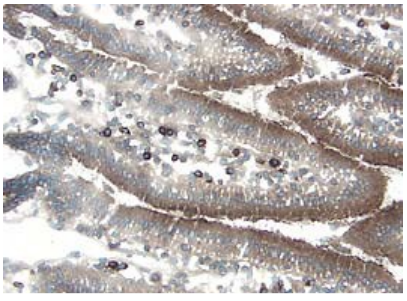
Detection of Mouse Cathepsin D by Western Blot. Western blot shows lysate of mouse intestine tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Mouse Cathepsin D Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1029) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for Cathepsin D at approximately 28 and 45 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



Cathepsin D in RAW 264.7 Mouse Cell Line. Cathepsin D was detected in immersion fixed RAW 264.7 mouse monocyte/macrophage cell line using Goat Anti-Mouse Cathepsin D Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1029) at 5 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to lysosomes. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunohistochemistry



Cathepsin D in Mouse Intestine. Cathepsin D was detected in perfusion fixed frozen sections of mouse intestine using 15 µg/mL Goat Anti-Mouse Cathepsin D Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1029) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counter-stained with hematoxylin (blue). Specific labeling was localized to epithelial cells in intestinal villi. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

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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.

BACKGROUND

Cathepsin D is a lysosomal aspartic protease of the pepsin family (4). Mouse Cathepsin D is synthesized as a precursor protein, consisting of a signal peptide (residues 1-20), a propeptide (residues 21-64), and a mature chain (residues 65-410) (1-3). It is expressed in most cells and over-expressed in breast cancer cells (5). It is a major enzyme in protein degradation in lysosomes, and also involved in the presentation of antigenic peptides. Mice deficient in this enzyme showed a progressive atrophy of the intestinal mucosa, a massive destruction of lymphoid organs, and a profound neuronal ceroid lipofucinosis, indicating that Cathepsin D is essential for proteolysis of proteins regulating cell growth and tissue homeostasis (6). Cathepsin D secreted from human prostate carcinoma cells is responsible for the generation of angiostatin, a potent endogeneous inhibitor of angiogenesis (6).

References:

1. Diedrich, *et al.* (1990) Nucl. Acid Res. **18**:7184.
2. Grusby, *et al.* (1990) Nucl. Acid Res. **18**:4008.
3. Hetman, *et al.* (1994) DNA Cell Biol. **13**:419.
4. Conner, (2004) in *Handbook of Proteolytic Enzymes* (Barrett, *et al.* eds) Elsevier Academic Press, San Diego, p. 43.
5. Rochefort, *et al.* (2000) Clin. Chim. Acta. **291**:157.
6. Tsukuba, *et al.* (2000) Mol. Cells **10**:601.

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