

DESCRIPTION

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|---------------------------|---|
| Species Reactivity | Human |
| Specificity | Detects human Cathepsin D in Western blots. In Western blots, approximately 20% cross-reactivity with recombinant mouse Cathepsin D is observed, and less than 1% cross-reactivity with recombinant human (rh) Cathepsin A, rhCathepsin B, rhCathepsin C, rhCathepsin L, and rhCathepsin X/Z/P is observed. |
| Source | Polyclonal Goat IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | Mouse myeloma cell line NS0-derived recombinant human Cathepsin D Leu21-Leu412 Accession # P07339 |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details. |

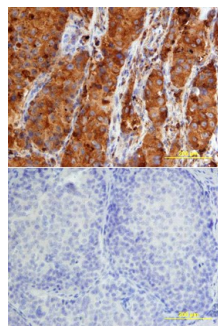
APPLICATIONS

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 | 0.1 µg/mL | Recombinant Human Cathepsin D (Catalog # 1014-AS) |
| Immunohistochemistry | 5-15 µg/mL | See Below |

DATA

Immunohistochemistry



Cathepsin D in Human Lung. Cathepsin D was detected in immersion fixed paraffin-embedded sections of human lung array using Goat Anti-Human Cathepsin D Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF1014) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

PREPARATION AND STORAGE

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|--------------------------------|---|
| 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. |
| 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

Cathepsin D is a lysosomal aspartic protease of the pepsin family (1). Human Cathepsin D is synthesized as a precursor protein, consisting of a signal peptide (residues 1-18), a propeptide (residues 19-64), and a mature chain (residues 65-412) (2-4). The mature chain can be processed further to the light (residues 65-161) and heavy (residues 169-412) chains. It is expressed in most cells and overexpressed 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 lipofuscinosis, 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 are responsible for the generation of angiostatin, a potent endogenous inhibitor of angiogenesis (6).

References:

1. Conner *et al.* in *Handbook of Proteolytic Enzymes* Barrett (1998) Academic Press, San Diego, p. 828.
2. Faust, *et al.* (1985) Proc. Natl. Acad. Sci. USA **82**:4910.
3. Westley and May (1987) Nucl. Acid Res. **15**:3773.
4. Redecker, *et al.* (1991) DNA Cell Biol. **10**:423.
5. Rochefort, *et al.* (2000) Clin. Chim. Acta. **291**:157.
6. Tsukuba, *et al.* (2000) Mol. Cells **10**:601.