Human Cathepsin C/DPPI Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1071

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Cathepsin C/DPPI in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human pro Cathepsin C/DPPI Asp25-Leu463 Accession # P53634
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.

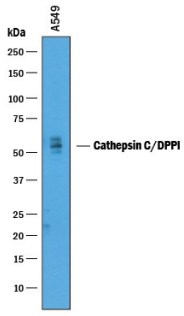
APPLICATIONS

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
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	50 µg/mL	See Below

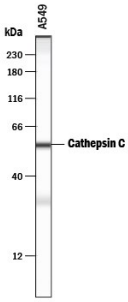
DATA

Western Blot



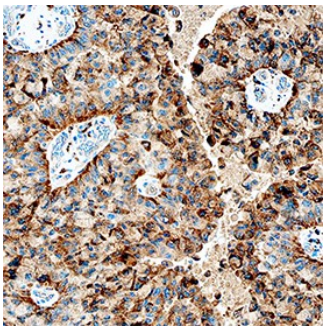
Detection of Human Cathepsin C/DPPI by Western Blot. Western blot shows lysates of A549 human lung carcinoma cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Cathepsin C/DPPI Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1071) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF019). A specific band was detected for Cathepsin C/DPPI at approximately 55 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Human Cathepsin C/DPPI by Simple Western™. Simple Western lane view shows lysates of A549 human lung carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for Cathepsin C/DPPI at approximately 56 kDa (as indicated) using 50 µg/mL of Goat Anti-Human Cathepsin C/DPPI Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1071) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system. Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.

Immunohistochemistry



Cathepsin C/DPPI in Human Lung Cancer Tissue. Cathepsin C/DPPI was detected in immersion fixed paraffin-embedded sections of human lung cancer tissue using Goat Anti-Human Cathepsin C/DPPI Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1071) at 1 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in cancer cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded 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 C, also known as dipeptidyl-peptidase I (DPPI), is a cysteine protease of the papain family (1). Cathepsin C sequentially removes dipeptides from the free N-termini of proteins and peptides. It has broad specificity except that it does not cleave a basic amino acid (Arg or Lys) in the N-terminal position or Pro on either side of the scissle bond. It requires halide ions for activity. The pro form contains a pro peptide and a catalytic region, which can be further processed into heavy/α and light/β chains that are linked by a disulfide bond. It is broadly distributed. Cathepsin C plays a role in the lysosomal degradation. It also functions as a key enzyme in the activation of granule serine proteases in cytotoxic T lymphocytes and natural killer cells (granzymes A and B), mast cells (tryptase and chymase), and neutrophils (Cathepsin G and elastase) by removing their N-terminal activation dipeptides (2). Loss of function mutations in the Cathepsin C gene result in periodontal disease and palmoplantar keratosis (3).

References:

1. Turk, B. *et al.* (2004) in *Handbook of Proteolytic Enzymes* (ed. Barrett, A.J. *et al.*) p. 1192, Academic Press, San Diego.
2. Dahl, S.W. *et al.* (2001) Biochemistry **40**:1671.
3. Toomes, A.J. *et al.* (1999) Nat. Genet. **23**:421.

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