Human Cathepsin A/Lysosomal Carboxypeptidase A Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF1049

DESCRIPTION

Species Reactivity	Human
Specificity	Detects both pro and active forms of human and mouse Cathepsin A/Lysosomal Carboxypeptidase A in direct ELISAs and Western blots. In Western blots, it recognizes all forms of recombinant human Cathepsin A: single chain (55 kDa), heavy chain (32 kDa), and light chain (20 kDa). Also in Western blots, less than 1% cross-reactivity with recombinant human (rh) Cathepsin B, rhCathepsin C, rhCathepsin D, rhCathepsin L, rhCathepsin L2/V, rhCathepsin O, rhCathepsin S 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 A/Lysosomal Carboxypeptidase A Ala29-Tyr480 Accession # P10619
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.

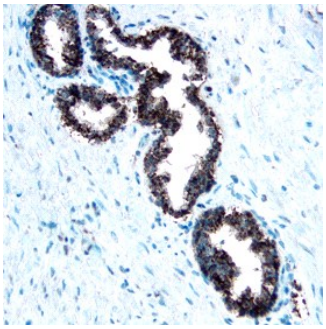
APPLICATIONS

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	0.1 µg/mL	Recombinant Human Cathepsin A/Lysosomal Carboxypeptidase A (Catalog # 1049-SE)
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



Cathepsin A/Lysosomal Carboxypeptidase A in Human Prostate. Cathepsin A/Lysosomal Carboxypeptidase A was detected in immersion fixed paraffin-embedded sections of human prostate using Goat Anti-Human Cathepsin A/Lysosomal Carboxypeptidase A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1049) at 3 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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 A/lyososomal carboxypeptidase A is a member of the serine carboxypeptidase family (1). Cathepsin A is a multifunctional enzyme that expresses deaminidase and esterase activities at neutral pH and carboxypeptidase activity at acidic pH. Also known as protective protein, its association with β-galactosidase (β-gal) and neuraminidase is essential for β-gal stability and neuraminidase activation in the lysosomes. Inherited deficiency of Cathepsin A causes the lysosomal storage disorder galactosialidosis, characterized by a combined secondary deficiency of β-gal and neuraminidase. Cathepsin A is capable of hydrolyzing a variety of bioactive peptide hormones including tachykinins, indicating that extralysosomal Cathepsin A plays a role in regulation of functions of these molecules (2). Cathepsin A is synthesized as a single-chain precursor and processed into heavy (32 kDa) and light (20 kDa) chains, which are linked by disulfide bonds.

References:

1. Pshezhetsky, A.V. (2004) in *Handbook of Proteolytic Enzymes* (ed. Barrett, A.J. *et al.*) p. 1923, Academic Press, San Diego.
2. Hiraiwa, M. (1999) Cell. Mol. Life. Sci. **56:**894.

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