

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Cathepsin S in ELISAs and Western blots. In sandwich ELISAs, less than 0.05% cross-reactivity with recombinant human Cathepsin A, B, C, D, E, L, V, and X/Z/P is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Cathepsin S Gln17-Ile331 Accession # P25774
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.

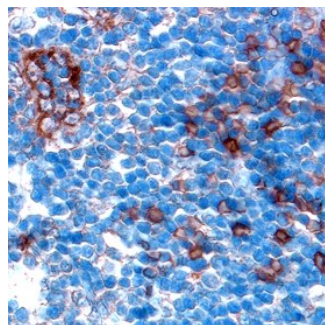
APPLICATIONS

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 S (Catalog # 1183-CY)
Immunohistochemistry	5-15 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Cathepsin S (Catalog # 1183-CY), see our available Western blot detection antibodies
Human Cathepsin S Sandwich Immunoassay		Reagent
ELISA Capture	0.2-0.8 µg/mL	Human Cathepsin S Antibody (Catalog # AF1183)
ELISA Detection	0.1-0.4 µg/mL	Human Cathepsin S Biotinylated Antibody (Catalog # BAF1183)
Standard		Recombinant Human Cathepsin S (Catalog # 1183-CY)
Neutralization	Measured by its ability to neutralize activation and the resulting activity of Recombinant Human Cathepsin S (0.25 µg/mL, Catalog # 1183-CY) in cleaving the fluorogenic peptide substrate Mca-RPKPVE-Nval-WRK(Dnp)-NH ₂ (10 µM, Catalog # ES002). The Neutralization Dose (ND ₅₀) is typically 2 µg/mL.	

DATA

Immunohistochemistry



Cathepsin S in Human Lymph Node.

Cathepsin S was detected in immersion fixed paraffin-embedded sections of human lymph node using Goat Anti-Human Cathepsin S Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1183) 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). View our protocol for [Chromogenic IHC Staining of immersion fixed 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. <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 S is a lysosomal cysteine protease of the papain family (1). It plays a major role in the processing of the MHC class II-associated invariant chain (2). It has been implicated in the pathogenesis of several diseases such as Alzheimer's disease and degenerative disorders associated with the cells of the mononuclear phagocytic system (1). Human Cathepsin S is synthesized as a preproenzyme of 331 amino acid residues consisting a signal peptide (residues 1-16), a pro region (residues 17-114), and the mature enzyme (residues 115-331) (3-5). Cathepsin S is less abundant in tissues than Cathepsins B, L and H. The highest levels have been found in lymph nodes, spleen, macrophages, and other phagocytic cells.

References:

1. Kirschke, H. (2004) in *Handbook of Proteolytic Enzymes* (ed. Barrett, A.J. *et al.*) pp. 1104 - 1107, Academic Press, San Diego.
2. Turk, V. *et al.* (2001) *EMBO J.* **20**:4629.
3. Shi, G.P. *et al.* (1992) *J. Biol. Chem.* **267**:7258.
4. Shi, G.P. *et al.* (1994) *J. Biol. Chem.* **269**:11530.
5. Wiederanders, B. *et al.* (1992) *J. Biol. Chem.* **267**:13708.