

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects pro and mature forms of human Cathepsin S in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human Cathepsin B, C, D, L, L2/V, X/Z/P, recombinant mouse Cathepsin F, or H is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2B</sub> Clone # 248718
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Cathepsin S Gln17-Ile331 (predicted) Accession # P25774
<b>Formulation</b>	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
<b>Western Blot</b>	1 µg/mL	Recombinant Human Cathepsin S (Catalog # 1183-CY)
<b>Immunoprecipitation</b>	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Cathepsin S (Catalog # 1183-CY), see our available <a href="#">Western blot detection antibodies</a>

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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 proenzyme 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, 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.