

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Pro-Cathepsin B in sandwich ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 155709
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Cathepsin B Arg18-Ile339 Accession # P07858
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.

Human Pro-Cathepsin B Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human Pro-Cathepsin B Antibody (Catalog # MAB2176)
ELISA Detection	0.5-2.0 µg/mL	Human Pro-Cathepsin B Biotinylated Antibody (Catalog # BAM21761)
Standard		Recombinant Human Cathepsin B (Catalog # 953-CY)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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 B is the first described member of the family of lysosomal cysteine proteases (1). Cathepsin B possesses both endopeptidase and exopeptidase activities, in the latter case acting as a peptidyl-dipeptidase. It is known to process a number of proteins, including pro and active caspases, prorenin and secretory leucoprotease inhibitor (SLPI) (2-4). Therefore, Cathepsin B may play a role in activation and inactivation of caspases, activation of renin and inactivation of SLPI, the key steps in apoptosis, angiotensin production, and progression of emphysema, respectively. Because of its increased levels and redistribution of the enzyme in human and animal tumors, Cathepsin B may also have role in invasion and metastasis (5).

In addition to lysosome, Cathepsin B can be secreted or associated with plasma membrane, cytoplasm, and nucleus. It is synthesized as a proenzyme. Following removal of the signal peptide, the inactive proenzyme undergoes further modifications including removal of the pro region to result in the active enzyme (1).

References:

1. Mort, J.S. (2004) in *Handbook of Proteolytic Enzymes*. Barrett, A.J. *et al.* (eds): Academic Press, San Diego, p. 1079.
2. Vancompernelle, K. *et al.* (1998) *FEBS Lett.* **438**:150.
3. Jutras, I. and T.L. Reudelhuber (1999) *FEBS Lett.* **443**:48.
4. Taggart, C.C. *et al.* (2001) *J. Biol. Chem.* **276**:33345.
5. Bergquin, I.M. and B.F. Sloane (1996) *Adv. Exp. Med. Biol.* **389**:281.