

Anti-Cathepsin B [2A2] Standard Size Ab04088-23.0

Isotype and Format: Rabbit IgG, Kappa

Clone Number: 2A2

Alternative Name(s) of Target: Cat B; CTSB; CPSB; APPS; APP secretase; Cathepsin B1

UniProt Accession Number of Target Protein: P07858

Published Application(s): inhibit, WB, ELISA

Published Species Reactivity: Human

Immunogen: The original antibody was generated by immunizing BALB/c mice with highly purified recombinant human cathepsin B expressed in E. coli.

Specificity: This antibody binds human cathepsin B (Cat B) at an epitope near the active site and inhibits its proteolytic activity. It was reported to specifically bind the 'EPGYSP' sequence located between amino acid residues 133-138 of cathepsin B. Cat B is a lysosomal cysteine protease that is shown to participate in processes of tumor growth, invasion, and metastasis. It is seen that the increased level of tumor cathepsin B is not balanced by an increase in cysteine proteases, leading to uncontrolled proteolysis in the extracellular matrix. Significantly increased levels of Cat B have also been found in sera of patients with breast, colorectal, liver, pancreatic, and melanoma cancers.

Application Notes: This antibody is capable of binding cathepsin B in an antigen-immobilized ELISA. The binding reactivity of this antibody to cathepsin B was also confirmed using Western blot. This antibody significantly inhibited the invasion of ras-transformed MCF-10A neoT cells through matrigel. This antibody was further reported to inhibit cathepsin B activity against BODYPY FL casein significantly (Fan et al., 2002; PMID: 12530548). In a study, the intracellular and extracellular cathepsin B activities in the invasion of ras-transformed human breast epithelial cells, MCF-10A neoT, were assessed using this antibody. This antibody was shown to impair both the intracellular and the extracellular fractions of cathepsin B activity (Premzl et al., 2003; PMID: 12581740). This antibody was also used in the generation of an ammodytotoxin-anti-cathepsin B immuno-conjugate to deliver secretory phospholipase A2 into cancerous cells (Premzl et al., 2008; PMID: 18221975). This antibody was reported to potentiate cathepsin B exopeptidase activity with an activation constant (K_a) of 22.3 nM, although simultaneously inhibiting its endopeptidase activity (Mirković et al., 2009; PMID: 19656187).

Antibody First Published in: Fan et al. Molecular cloning and chimerisation of an inhibitory anti-cathepsin B antibody and its expression in Chinese hamster ovary cells. Biol Chem. 2002 Nov;383(11):1817-20. [PMID:12530548](#)

Note on publication: The original article describes the cloning and generation of a chimeric antibody against cathepsin B in CHO cells.

Product Form

Size: 100 µg Purified antibody.

Purification:

Protein A affinity purified

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.