

#31718 Store at -20°C

Cathepsin B (D1C7Y) XP® Rabbit mAb



Cell Signaling
TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IHC-P, IF-IC, FC-FP	H M R	Endogenous	44, 27, 24	Rabbit IgG	#P07858	1508

Product Usage Information

Application

Western Blotting
Immunohistochemistry (Paraffin)
Immunofluorescence (Immunocytochemistry)
Flow Cytometry (Fixed/Permeabilized)

Dilution

1:1000
1:1000 - 1:4000
1:400 - 1:1600
1:1600 - 1:6400

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Cathepsin B (D1C7Y) XP® Rabbit mAb recognizes endogenous levels of total cathepsin B protein. This antibody detects the heavy chain subunit of cathepsin B.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the heavy chain subunit of human cathepsin B protein.

Background

Cathepsin B (CSTB), part of the papain family of proteases, is a widely expressed lysosomal cysteine endopeptidase (1,2). Cathepsin B is produced from a larger precursor form, pro-cathepsin B, which runs at approximately 44 kDa on SDS-PAGE, and is proteolytically processed and glycosylated to form a mature two-chain protein containing a heavy chain (running at 27 and 24 kDa) and a light chain (5 kDa). High levels of cathepsin B are found in macrophages and osteoclasts, as well as various types of cancer cells, including lung, colon, prostate, breast, and stomach. In addition, expression of cathepsin B has been associated with multiple sclerosis (3), rheumatoid arthritis (4), and pancreatitis (5). While generally localized to lysosomes, in cancer alterations can lead to its secretion (6). Its role in tumor progression is thought to involve promotion of basement membrane degradation, invasion and metastasis (7,8). Expression can correlate with poor prognosis for a variety of forms of cancer (9-13). This product detects a SARS-CoV-2-related target for research into the mechanisms of the Novel Coronavirus, which has caused the COVID-19 pandemic.

Background References

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3. Bever, C.T. et al. (1994) *Neurology* 44, 745-8.
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7. Yan, S. et al. (1998) *Biol Chem* 379, 113-23.
8. Vasiljeva, O. et al. (2006) *Cancer Res* 66, 5242-50.
9. Campo, E. et al. (1994) *Am J Pathol* 145, 301-9.
10. Foekens, J.A. et al. (1998) *J Clin Oncol* 16, 1013-21.
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13. Werle, B. et al. (2000) *Cancer* 89, 2282-91.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)

IF-IC: Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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