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# Cathepsin B (D1C7Y) XP® Rabbit mAb (Alexa Fluor® 488 Conjugate)



**Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> IF-IC	<b>Reactivity:</b> H M R	<b>Sensitivity:</b> Endogenous	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P07858	<b>Entrez-Gene Id:</b> 1508
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<b>Product Usage Information</b>	<b>Application</b> Immunofluorescence (Immunocytochemistry)	<b>Dilution</b> 1:50 - 1:100
<b>Storage</b>	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.	
<b>Specificity / Sensitivity</b>	Cathepsin B (D1C7Y) XP® Rabbit mAb (Alexa Fluor® 488 Conjugate) recognizes endogenous levels of total cathepsin B protein. This antibody detects the heavy chain subunit of cathepsin B.	
<b>Source / Purification</b>	Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the heavy chain subunit of human cathepsin B protein.	
<b>Product Description</b>	This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for immunofluorescent analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated Cathepsin B (D1C7Y) XP® Rabbit mAb #31718.	

## 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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8. Vasiljeva, O. et al. (2006) *Cancer Res* 66, 5242-50.
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<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Applications Key</b>	IF-IC: Immunofluorescence (Immunocytochemistry)

**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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