

#4146 Store at -20°C

Calpastatin Antibody



Cell Signaling
TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R	Endogenous	120	Rabbit	#P20810	831

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

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

Specificity / Sensitivity

Calpastatin Antibody detects endogenous levels of total calpastatin protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human calpastatin. Antibodies are purified by peptide affinity chromatography.

Background

Calpain is a thiol proteinase that is functionally active as a heterodimer composed of a small regulatory subunit and one of at least two large catalytic subunits (calpain 1 or calpain 2). *In vitro*, calpain 1 (mu-calpain) requires micromolar levels of calcium, while calpain 2 (M-calpain) requires millimolar levels of calcium for activation (1). Calpastatin negatively regulates autoproteolytic cleavage of calpain 1 between Gly27 and Leu28 in a calcium dependent manner (2). In particular, calpastatin binds and inhibits calpain when calcium levels are high and is released when calcium levels go down. Calpastatin contains five domains, a unique N-terminal domain L with no inhibitory effects and four homologous domains (CAST 1-4) that can inhibit heterodimeric calpain 1 and 2 (3).

Background References

1. Perrin, B.J. and Huttenlocher, A. (2002) *Int J Biochem Cell Biol* 34, 722-5.
2. Melloni, E. et al. (1996) *Biochem Biophys Res Commun* 229, 193-7.
3. Hanna, R.A. et al. (2007) *FEBS Lett* 581, 2894-8.

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 **IP:** Immunoprecipitation

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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