

Calpastatin Antibody



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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: |
|---------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| W, 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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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