

Store at -20C  
#2556

## Calpain 1 Large Subunit (Mu-type) Antibody



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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	H M R	Endogenous	75, 80	Rabbit	#P07384	823

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	Calpain 1 Large Subunit (Mu-type) Antibody detects endogenous levels of total calpain 1 (large subunit) protein. The antibody detects full-length calpain 1 as well as calpain 1 autoproteolytically cleaved at leucine 28.	
<b>Species predicted to react based on 100% sequence homology:</b>	Rat	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the human sequence of calpain 1 (large subunit). Antibodies are purified by protein A and peptide affinity chromatography.	
<b>Background</b>	Calpain is a calcium-dependent 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). <i>In vitro</i> , calpain 1 (mu-calpain) requires micromolar levels of calcium, while calpain 2 (M-calpain) requires millimolar levels of calcium for activation. The regulation of calpain <i>in vivo</i> is the subject of many current studies, which suggest that proteolytic activity is regulated post-transcriptionally by mechanisms such as calcium requirements, subcellular localization of the heterodimer, phosphorylation via the EGFR-Erk signaling cascade, endogenous inhibitors (calpastatin), and autoproteolytic cleavage (1). Calpastatin negatively regulates autoproteolytic cleavage of calpain 1 between Gly27 and Leu28 (2). Calpain influences cell migration by modifying rather than degrading its substrates responsible for cell adhesion and cytoskeletal arrangement. Control of calpain activity has caught the attention of drug development since limiting its activity could mute invasiveness of tumors or chronic inflammation (1).	
<b>Background References</b>	1. Perrin, B.J. and Huttenlocher, A. (2002) <i>Int. J. Biochem. Cell Biol.</i> 34, 722-725. 2. Melloni, E. et al. (1996) <i>Biochem. Biophys. Res. Commun.</i> 229, 193-197.	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	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.
<b>Applications Key</b>	<b>WB:</b> Western Blotting
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected
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