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[Primary Antibody]

Rabbit Anti-Calpain 2 antibody

Catalog Number: SL1599R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Calpain 2
Immunogen:	KLH conjugated synthetic peptide derived from mouse Calpain 2: 301-400/700
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB=1:500-2000 IHC-P=1:100-500 IHC-F=1:100-500 IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human, Mouse, (predicted: Rat, Dog, Cow, Sheep)
Predicted MW.:	78kDa
Subcellular Location:	cytoplasmic The cell membrane
Background:	Calpain, and m calpain, also known as Calpain 2, are intracellular, calcium dependent cysteine proteases. Mu calpain has a micromolar sensitivity (thus the mu) as compared to the millimolar calcium sensitivity of m calpain. Both Calpains 1 and 2 are composed of an 80 kD subunit and a 30 kD subunit. Whereas the 30 kDa subunit is shared by both enzymes, the larger catalytic subunits are different and exhibit the distinct Ca++ requirements that are suggested by their names. The calpains have papain like activity, thus the pain nomenclature. Both Calpain 1 and Calpain 2 are ubiquitously expressed, and are countered by the endogenous calpain inhibitor, calpastatin. Other calpain family members (calpain 94, ncl2, ncl3, etc) have more limited

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	tissue distribution, and perhaps different functions. The calpain family members consist of a common small subunit (Calpain 4), and a large variable subunit. It is not clear that all calpains contain a small subunit. Domains in the large subunit include the amino terminal domain I, the proteinase domain II, domain III, and the EF hand domain IV. The calpains appear to serve multiple physiological roles, and ideas concerning the functions of these enzymes are in a state of rapid flux. **Function:** Calcium-regulated non-lysosomal thiol-protease which catalyze limited proteolysis of substrates involved in cytoskeletal remodeling and signal transduction. **Subunit:** Forms a heterodimer with a small (regulatory) subunit (CAPNS1). **Subcellular Location:** Cytoplasm. Cell membrane. Note=Translocates to the plasma membrane upon Ca(2+) binding. **Tissue Specificity:** Ubiquitous. **Similarity:** Belongs to the peptidase C2 family. Contains 1 calpain catalytic domain. Contains 2 EF-hand domains. **Database links:** **Entrez Gene:** 824 Human **Entrez Gene:** 12334 Mouse **Entrez Gene:** 29154 Rat Omim: 114230 Human **SwissProt:** P17655 Human **SwissProt:** O08529 Mouse **SwissProt:** Q07009 Rat **Unigene:** 350899 Human **Unigene:** 19306 Mouse **Unigene:** 6822 Rat Calpain2 is also a family of calcium-dependent cysteine proteases,widely present in various organ tissues throughout the body。 Calpain is involved in various cellular processes,including cytoskeletal and The cell membrane attachment remodeling, various Signal transduction pathways, and Apoptosis.

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[VALIDATION IMAGES]

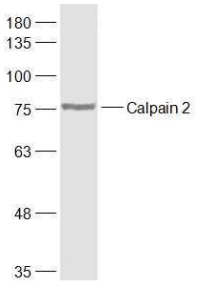


Figure 1. Sample: NIH/3T3(Mouse) Cell Lysate at 30 ug Primary: Anti-Calpain 2 (SL1599R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 78 kD Observed band size: 78 kD

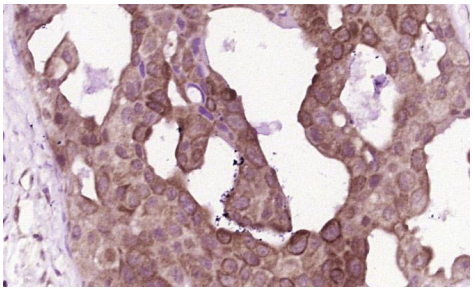


Figure 2. Paraformaldehyde-fixed, paraffin embedded (human breast carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Calpain 2) Polyclonal Antibody, Unconjugated (SL1599R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

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