

Calpain 1 (H-65): sc-13990

BACKGROUND

Calpain 1, also designated μ -calpain, is an intracellular calcium-dependent protease that cleaves cytoskeletal and submembranous proteins. Calpains are nonlysosomal, calcium-activated intracellular cysteine proteases. Calpains mediate specific Ca^{2+} -dependent processes including cell fusion, mitosis and meiosis. Calpains are heterodimers of a small regulatory subunit and one of three large catalytic subunits, designated Calpain 1, Calpain 2 and Calpain p94. Calpastatin regulates Calpain by inhibiting both the proteolytic activity of Calpain and its binding to membranes. Calpastatin exists in two types, tissue type and erythrocyte type, resulting from both alternative splicing and proteolytic processing. Calpain 1 co-localizes with human leukocyte antigen-DR (HLA-DR) on activated microglia in the aging brain. Calpain influences the process of spermatogenesis and the events preceding fertilization, such as the acrosome reaction.

CHROMOSOMAL LOCATION

Genetic locus: CAPN1 (human) mapping to 11q13.1; Capn1 (mouse) mapping to 19 A.

SOURCE

Calpain 1 (H-65) is a rabbit polyclonal antibody raised against amino acids 608-672 mapping near the C-terminus of Calpain 1 of human origin.

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Calpain 1 (H-65) is recommended for detection of Calpain 1 catalytic subunit of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Calpain 1 (H-65) is also recommended for detection of Calpain 1 catalytic subunit in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Calpain 1 siRNA (h): sc-29885, Calpain 1 siRNA (m): sc-29886, Calpain 1 siRNA (r): sc-60099, Calpain 1 shRNA Plasmid (h): sc-29885-SH, Calpain 1 shRNA Plasmid (m): sc-29886-SH, Calpain 1 shRNA Plasmid (r): sc-60099-SH, Calpain 1 shRNA (h) Lentiviral Particles: sc-29885-V, Calpain 1 shRNA (m) Lentiviral Particles: sc-29886-V and Calpain 1 shRNA (r) Lentiviral Particles: sc-60099-V.

Molecular Weight of Calpain 1 large subunit: 80 kDa.

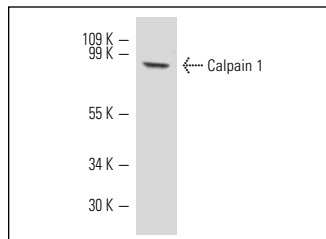
Molecular Weight of Calpain 1 small subunit: 30 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, TF-1 cell lysate: sc-2412 or K-562 whole cell lysate: sc-2203.

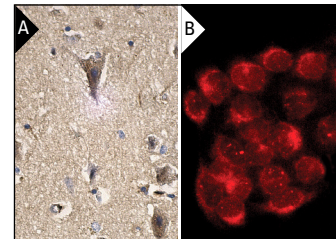
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Calpain 1 (H-65): sc-13990. Western blot analysis of Calpain 1 expression in HeLa whole cell lysate.



Calpain 1 (H-65): sc-13990. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal and glial cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

1. Del Bello, B., et al. 2007. Cross-talk between Calpain and caspase-3/7 in cisplatin-induced apoptosis of melanoma cells: a major role of Calpain inhibition in cell death protection and p53 status. *Oncogene* 26: 2717-2726.
2. Muramatsu, Y., et al. 2007. Cross-species difference in telomeric function of Tankyrase-1. *Cancer Sci.* 98: 850-857.
3. Mao, X., et al. 2007. Glutamate receptor activation evokes Calpain-mediated degradation of Sp3 and Sp4, the prominent Sp-family transcription factors in neurons. *J. Neurochem.* 100: 1300-1314.
4. Agudo, M., et al. 2009. Immediate upregulation of proteins belonging to different branches of the apoptotic cascade in the retina after optic nerve transection and optic nerve crush. *Invest. Ophthalmol. Vis. Sci.* 50: 424-431.
5. Letavernier, E., et al. 2011. Critical role of the calpain/calpastatin balance in acute allograft rejection. *Eur. J. Immunol.* 41: 473-484.
6. Chou, S.M., et al. 2011. Calcium-induced cleavage of DNA topoisomerase I involves the cytoplasmic-nuclear shuttling of calpain 2. *Cell. Mol. Life Sci.* 68: 2769-2784.
7. Kojima, A., et al. 2015. Roles of extracellular Ca^{2+} in the occurrence of full-type hyperactivation in boar ejaculated spermatozoa pre-incubated to induce the cAMP-triggered events. *Andrology* 3: 321-331.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **Calpain 1 (D-11): sc-271313** or **Calpain 1 (P-6): sc-81171**, our highly recommended monoclonal alternatives to Calpain 1 (H-65). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Calpain 1 (D-11): sc-271313**.