

Calpain 1 (15C10): sc-58323

BACKGROUND

Calpain 1 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 (100-120 kDa) and erythrocyte type (70 kDa), 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.

REFERENCES

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CHROMOSOMAL LOCATION

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

SOURCE

Calpain 1 (15C10) is a mouse monoclonal antibody raised against full length Calpain 1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 1% glycerol.

APPLICATIONS

Calpain 1 (15C10) is recommended for detection of Calpain 1 of mouse, rat, human and cow origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

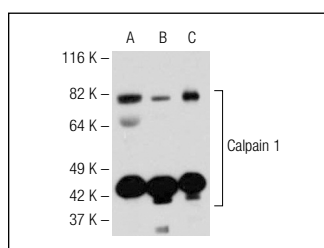
Molecular Weight of Calpain 1 small subunit: 30 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Calpain 1 (15C10): sc-58323. Western blot analysis of Calpain 1 expression in human fibroblast (A), Madin-Darby bovine kidney (B) and PC-12 (C) whole cell lysates.

STORAGE

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