SANTA CRUZ BIOTECHNOLOGY, INC.

Calpain reg (C-20): sc-7528

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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 in the events preceding fertilization, such as the acrosome reaction.

CHROMOSOMAL LOCATION

Genetic locus: CAPNS1 (human) mapping to 19q13.12; Capns1 (mouse) mapping to 7 B1.

SOURCE

Calpain reg (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Calpain reg 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.

Blocking peptide available for competition studies, sc-7528 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Calpain reg (C-20) is recommended for detection of calpain regulatory subunit of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 reg (C-20) is also recommended for detection of calpain regulatory subunit in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Calpain reg siRNA (h): sc-29887, Calpain reg siRNA (m): sc-29888, Calpain reg shRNA Plasmid (h): sc-29887-SH, Calpain reg shRNA Plasmid (m): sc-29888-SH, Calpain reg shRNA (h) Lentiviral Particles: sc-29887-V and Calpain reg shRNA (m) Lentiviral Particles: sc-29888-V.

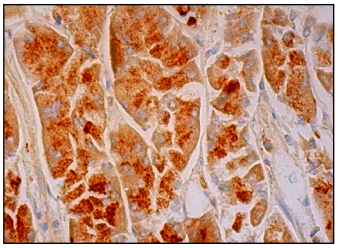
Molecular Weight of Calpain reg: 30 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Calpain reg (C-20): sc-7528. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Sanvicens, N., et al. 2004. Oxidative stress-induced apoptosis in retinal photoreceptor cells is mediated by calpains and caspases and blocked by the oxygen radical scavenger CR-6. J. Biol. Chem. 279: 39268-39278.
2. Tremper-Wells, B. and Vallano, M.L. 2005. Nuclear calpain regulates Ca^{2+}-dependent signaling via proteolysis of nuclear Ca^{2+}/Calmodulin-dependent protein kinase type IV in cultured neurons. J. Biol. Chem. 280: 2165-2175.
3. Fifre, A., et al. 2006. Microtubule-associated protein MAP1A, MAP1B, and MAP2 proteolysis during soluble amyloid β-peptide-induced neuronal apoptosis. Synergistic involvement of calpain and caspase-3. J. Biol. Chem. 281: 229-240.

STORAGE

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

RESEARCH USE

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