SANTA CRUZ BIOTECHNOLOGY, INC.

Calpain 2 (N-19): sc-7533

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Calpain, an intracellular calcium-dependent protease that cleaves cytoskeletal and submembranous proteins, is thought to play a role in cytoskeletal reorganization and muscle protein degradation. Calpain exists as a heterodimer composed 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.

REFERENCES

1. Murachi, T. 1984. Calcium-dependent proteinases and specific inhibitors: Calpain and Calpastatin. Biochem. Soc. Symp. 45: 149-167.
2. Takano, E., et al. 1991. Molecular diversity of erythrocyte Calpastatin. Biomed. Biochim. Acta 50: 517-521.
3. Takano, E., et al. 1993. Molecular diversity of Calpastatin in human erythroid cells. Arch. Biochem. Biophys. 303: 349-354.

CHROMOSOMAL LOCATION

Genetic locus: CAPN2 (human) mapping to 1q41; Capn2 (mouse) mapping to 1 H5.

SOURCE

Calpain 2 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Calpain 2 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-7533 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Calpain 2 (N-19) is recommended for detection of Calpain 2 precursor 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with calpain 2 catalytic subunit.

Calpain 2 (N-19) is also recommended for detection of Calpain 2 precursor in additional species, including bovine and porcine.

Suitable for use as control antibody for Calpain 2 siRNA (h): sc-41459, Calpain 2 siRNA (m): sc-41460, Calpain 2 shRNA Plasmid (h): sc-41459-SH, Calpain 2 shRNA Plasmid (m): sc-41460-SH, Calpain 2 shRNA (h) Lentiviral Particles: sc-41459-V and Calpain 2 shRNA (m) Lentiviral Particles: sc-41460-V.

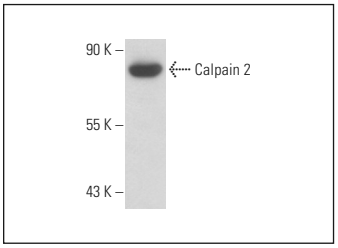
Molecular Weight of Calpain 2 large regulatory subunit: 80 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

STORAGE

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

DATA



Calpain 2 (N-19): sc-7533. Western blot analysis of Calpain 2 expression in A-431 whole cell lysate.

SELECT PRODUCT CITATIONS

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2. Gafni, J., et al. 2002. Calpain activation in Huntington's disease. J. Neurosci. 22: 4842-4849.
3. Mamoune, A., et al. 2003. Calpain 2 as a target for limiting prostate cancer invasion. Cancer Res. 63: 4632-4640.
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6. Meng, X.N., et al. 2009. Characterisation of fibronectin-mediated FAK signalling pathways in lung cancer cell migration and invasion. Br. J. Cancer 101: 327-334.
7. Liu, S.H., et al. 2010. IL-13 downregulates PPAR-γ/heme oxygenase-1 via ER stress-stimulated calpain activation: aggravation of activated microglia death. Cell. Mol. Life Sci. 67: 1465-1476.
8. Roumes, H., et al. 2010. Calpains: markers of tumor aggressiveness? Exp. Cell Res. 316: 1587-1599.

RESEARCH USE

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