

Calpain 9 (M-17): sc-66508

BACKGROUND

Calpain 9 belongs to a family of 14 intracellular calcium activated cysteine proteases present in the fungi, plant and animal kingdoms. Several of these proteases have been implicated in cardiovascular diseases. On a high salt diet, Calpain 9 is downregulated by more than 50% in the heart. The differential regulation of Calpain 9 seen under such conditions may play a role in hypertensive target organ damage. The digestive tract-specific Calpain 9 is downregulated in gastric cancer cell lines, suggesting that it acts as a gastric cancer suppressor. Two known isoforms exist for Calpain 9 due to alternative splicing. The two isoforms vary in their amino acid sequences between amino acids 292 and 318.

REFERENCES

- Murachi, T. 1984. Calcium-dependent proteinases and specific inhibitors: calpain and Calpastatin. *Biochem. Soc. Symp.* 45: 149-167.
- Kawasaki, H. and Kawashima, S. 1996. Regulation of the calpain-Calpastatin system by membranes. *Mol. Membr. Biol.* 13: 217-224.
- Johnson, G.V. and Guttman, R.P. 1997. Calpains: intact and active? *Bioessays* 19: 1011-1018.
- Huang, Y. and Wang, K.K. 2001. The Calpain family and human disease. *Trends Mol. Med.* 7: 355-362.
- Markmann, A., Schäfer, S., Linz, W., Löhn, M., Busch, A.E. and Wohlfart, P. 2005. Downregulation of Calpain 9 is linked to hypertensive heart and kidney disease. *Cell. Physiol. Biochem.* 15: 109-116.
- Davis, T.L., Walker, J.R., Mackenzie, F., Newman, E.M. and Dhe-Paganon, S. 2007. The crystal structures of human Calpains 1 and 9 imply diverse mechanisms of action and auto-inhibition. *J. Mol. Biol.* 366: 216-229.

CHROMOSOMAL LOCATION

Genetic locus: Capn9 (mouse) mapping to 8 E2.

SOURCE

Calpain 9 (M-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Calpain 9 of mouse 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-66508 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

Calpain 9 (M-17) is recommended for detection of Calpain 9 of mouse and rat 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).

Calpain 9 (M-17) is also recommended for detection of Calpain 9 in additional species, including avian.

Suitable for use as control antibody for Calpain 9 siRNA (m): sc-62071, Calpain 9 shRNA Plasmid (m): sc-62071-SH and Calpain 9 shRNA (m) Lentiviral Particles: sc-62071-V.

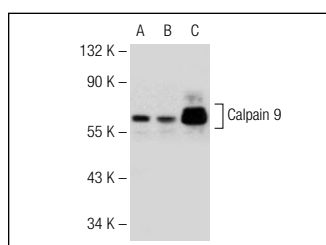
Molecular Weight of Calpain 9: 79 kDa.

Positive Controls: mouse brain extract: sc-2253.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Calpain 9 (M-17): sc-66508. Western blot analysis of Calpain 9 expression in rat eye (A), mouse embryo (B) and mouse brain (C) tissue extracts.

RESEARCH USE

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