

Calpain 9 (G-12): sc-166517

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

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- 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 (human) mapping to 1p42.2.

SOURCE

Calpain 9 (G-12) is a mouse monoclonal antibody raised against amino acids 481-690 mapping at the C-terminus of Calpain 9 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Calpain 9 (G-12) is available conjugated to agarose (sc-166517 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166517 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166517 PE), fluorescein (sc-166517 FITC), Alexa Fluor® 488 (sc-166517 AF488), Alexa Fluor® 546 (sc-166517 AF546), Alexa Fluor® 594 (sc-166517 AF594) or Alexa Fluor® 647 (sc-166517 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166517 AF680) or Alexa Fluor® 790 (sc-166517 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Calpain 9 (G-12) is recommended for detection of Calpain 9 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Calpain 9 siRNA (h): sc-62070, Calpain 9 shRNA Plasmid (h): sc-62070-SH and Calpain 9 shRNA (h) Lentiviral Particles: sc-62070-V.

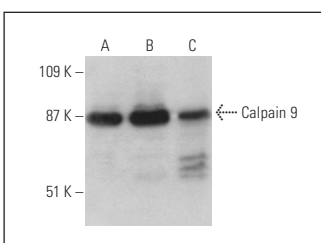
Molecular Weight of Calpain 9: 79 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HISM cell lysate: sc-2229 or Caco-2 cell lysate: sc-2262.

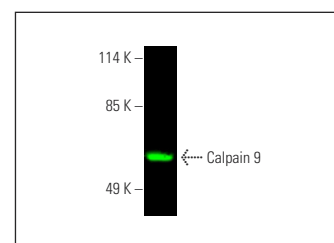
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Calpain 9 (G-12) HRP: sc-166517 HRP. Direct western blot analysis of Calpain 9 expression in HISM (A), HeLa (B) and NIH/3T3 (C) whole cell lysates.



Calpain 9 (G-12): sc-166517. Near-infrared western blot analysis of Calpain 9 expression in NIH/3T3 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

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.

PROTOCOLS

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