



Calpain 9 (V-18): sc-66512

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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2. Kawasaki, H., et al. 1996. Regulation of the calpain-Calpastatin system by membranes. *Mol. Membr. Biol.* 13: 217-224.
3. Johnson, G.V., et al. 1997. Calpains: intact and active? *Bioessays* 19: 1011-1018.
4. Huang, Y. and Wang, K.K. 2001. The Calpain family and human disease. *Trends Mol. Med.* 7: 355-362.
5. 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.
6. 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 1p42.11-q42.3; Capn9 (mouse) mapping to 8 E2.

SOURCE

Calpain 9 (V-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-66512 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 (V-18) 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), 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 (m): sc-62071.

Molecular Weight of Calpain 9: 79 kDa.

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.

RESEARCH USE

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