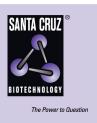
## SANTA CRUZ BIOTECHNOLOGY, INC.

# Calpain 9 (S-19): sc-66511



#### 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

- 1. Murachi, T. 1984. Calcium-dependent proteinases and specific inhibitors: calpain and calpastatin. Biochem. Soc. Symp. 45: 149-167.
- 2. Johnson, G.V., et al. 1997. Calpains: intact and active? Bioessays 19: 1011-1018.
- Kawasaki, H., et al. 1996. Regulation of the calpain-calpastatin system by membranes (review). Mol. Membr. Biol. 13: 217-224.
- 4. Huang, Y. and Wang, K.K. 2001. The Calpain family and human disease. Trends Mol. Med. 7: 355-362.
- Markmann, A., et al. 2005. Downregulation of Calpain 9 is linked to hypertensive heart and kidney disease. Cell. Physiol. Biochem. 15: 109-116.
- Davis, T.L., et al. 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 (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Calpain 9 of rat origin.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66511 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## **STORAGE**

Store at 4° C, \*\*D0 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 (S-19) 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, 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, mouse embryo extract: sc-364239 or rat eye tissue extract: sc-364805.

#### **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) Immunofluo-rescence: 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.