SANTA CRUZ BIOTECHNOLOGY, INC.

Calpain 9 (h): 293T Lysate: sc-117190

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. 49: 149-167.
2. Kawasaki, H. and Kawashima, S. 1996. Regulation of the calpain-Calpastatin system by membranes (review). Mol. Membr. Biol. 13: 217-224.
3. Johnson, G.V. and Guttmann, R.P. 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., Finerty, P.J. Jr., 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 1q42.2.

PRODUCT

Calpain 9 (h): 293T Lysate represents a lysate of human Calpain 9 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

Calpain 9 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Calpain 9 antibodies. Recommended use: 10-20 µl per lane.

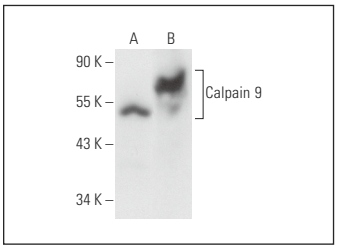
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Calpain 9 (G-12): sc-166517 is recommended as a positive control antibody for Western Blot analysis of enhanced human Calpain 9 expression in Calpain 9 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



Calpain 9 (G-12): sc-166517. Western blot analysis of Calpain 9 expression in non-transfected: sc-117752 (**A**) and human Calpain 9 transfected: sc-117190 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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