

Calpain 5 (h): 293T Lysate: sc-113177

BACKGROUND

Calpains are calcium-activated thiol proteases involved in intracellular processing of proteins and signal transduction. The classic calpains are heterodimers with one large subunit, one small subunit and five EF-hand-calcium binding structures. The large subunit varies between family members and can be active without the small subunit. Calpain 5, sometimes referred to as HTRA3, belongs to the non-classical calpain subfamily that lacks the EF-hand-calcium-binding structures. Calpain 5 is ubiquitously expressed, localizes to the cytoplasm and nucleus and is a homolog of Calpain 10. Calpain 5, in addition to Calpain 10 and Calpain 6, differs from other subfamily members by the presence of a T-domain that is homologous to the *Caenorhabditis elegans* protein Tra-3. Calpain 5, the human ortholog of this nematode protein, may play a role in sex determination.

REFERENCES

1. Dear, T.N., Meier, N.T., Hunn, M. and Boehm, T. 2000. Gene structure, chromosomal localization, and expression pattern of Capn12, a new member of the calpain large subunit gene family. *Genomics* 68: 152-160.
2. Dear, T.N. and Boehm, T. 2000. Diverse mRNA expression patterns of the mouse calpain genes Capn5, Capn6 and Capn11 during development. *Mech. Dev.* 89: 201-209.
3. Franz, T., Winckler, L., Boehm, T. and Dear, T.N. 2004. Capn5 is expressed in a subset of T cells and is dispensable for development. *Mol. Cell. Biol.* 24: 1649-1654.
4. Gafni, J., Hermel, E., Young, J.E., Wellington, C.L., Hayden, M.R. and Ellerby, L.M. 2004. Inhibition of calpain cleavage of Huntingtin reduces toxicity: accumulation of calpain/caspase fragments in the nucleus. *J. Biol. Chem.* 279: 20211-20220.
5. Waghray, A., Wang, D.S., McKinsey, D., Hayes, R.L. and Wang, K.K. 2004. Molecular cloning and characterization of rat and human Calpain 5. *Biochem. Biophys. Res. Commun.* 324: 46-51.
6. Fan, C., Iacobas, D.A., Zhou, D., Chen, Q., Lai, J.K., Gavrilov, O. and Haddad, G.G. 2005. Gene expression and phenotypic characterization of mouse heart after chronic constant or intermittent hypoxia. *Physiol. Genomics* 22: 292-307.
7. González, A., Sáez, M.E., Aragón, M.J., Galán, J.J., Vettori, P., Molina, L., Rubio, C., Real, L.M., Ruiz, A. and Ramírez-Lorca, R. 2006. Specific haplotypes of the Calpain 5 gene are associated with polycystic ovary syndrome. *Hum. Reprod.* 21: 943-951.
8. Wang, H.C., Ko, Y.H., Mersmann, H.J., Chen, C.L. and Ding, S.T. 2006. The expression of genes related to adipocyte differentiation in pigs. *J. Anim. Sci.* 84: 1059-1066.
9. Sáez, M.E., Martínez-Larrad, M.T., Ramírez-Lorca, R., González-Sánchez, J.L., Zabena, C., Martínez-Calatrava, M.J., González, A., Morón, F.J., Ruiz, A. and Serrano-Ríos, M. 2007. Calpain 5 gene variants are associated with diastolic blood pressure and cholesterol levels. *BMC Med. Genet.* 8: 1.

CHROMOSOMAL LOCATION

Genetic locus: CAPN5 (human) mapping to 11q13.5.

PRODUCT

Calpain 5 (h): 293T Lysate represents a lysate of human Calpain 5 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Calpain 5 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Calpain 5 antibodies. Recommended use: 10-20 µl per lane.

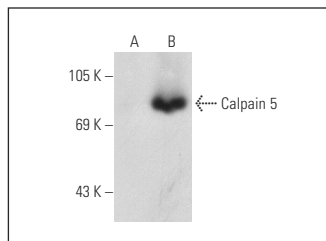
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Calpain 5 (A-5): sc-271271 is recommended as a positive control antibody for Western Blot analysis of enhanced human Calpain 5 expression in Calpain 5 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 5 (A-5): sc-271271. Western blot analysis of Calpain 5 expression in non-transfected: sc-117752 (A) and human Calpain 5 transfected: sc-113177 (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.

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.