

# Calpain 6 (T-16): sc-54710

## 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 6 (Capn6), also designated calpamodulin, CalpM or calpain-like protease X-linked, belongs to the peptidase C-2 family of proteins. It is exclusively expressed in placenta and may play a role in embryogenesis. Calpain 6, in addition to Calpain 10 and Calpain 5, differs from other subfamily members by the presence of a T-domain that is homologous to the *Caenorhabditis elegans* protein Tra-3. Calpain 6 is distinct from other calpains in that it lacks the cysteine and histidine residues required for protease activity. Overexpression of Calpain 6 leads to failure of cytokinesis and formation of microtubule bundles. This results in cells containing multiple nuclei. Calpain 6 may function in Actin organization and microtubule stability.

## REFERENCES

- Zhao, P., et al. 2002. SLUG is a novel downstream target of MyoD. Temporal profiling in muscle regeneration. *J. Biol. Chem.* 277: 30091-30101.
- Czogalla, A. and Sikorski, A.F. 2005. Spectrin and Calpain: a "target" and a "sniper" in the pathology of neuronal cells. *Cell. Mol. Life Sci.* 62: 1913-1924.
- Markmann, A., et al. 2005. Downregulation of Calpain 9 is linked to hypertensive heart and kidney disease. *Cell. Physiol. Biochem.* 15: 109-116.
- Leung-Toung, R., et al. 2006. Thiol proteases: inhibitors and potential therapeutic targets. *Curr. Med. Chem.* 13: 547-581.
- Paquet-Durand, F., et al. 2006. Calpain is activated in degenerating photoreceptors in the rd1 mouse. *J. Neurochem.* 96: 802-814.
- Ersfeld, K. and Croall, D.E. 2007. The calpains: modular designs and functional diversity. *Genome Biol.* 8: 218-218.

## CHROMOSOMAL LOCATION

Genetic locus: CAPN6 (human) mapping to Xq23; Capn6 (mouse) mapping to X F2.

## SOURCE

Calpain 6 (T-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Calpain 6 of human 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-54710 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.

## APPLICATIONS

Calpain 6 (T-16) is recommended for detection of Calpain 6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Calpain 6 (T-16) is also recommended for detection of Calpain 6 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Calpain 6 siRNA (h): sc-62066, Calpain 6 siRNA (m): sc-62067, Calpain 6 shRNA Plasmid (h): sc-62066-SH, Calpain 6 shRNA Plasmid (m): sc-62067-SH, Calpain 6 shRNA (h) Lentiviral Particles: sc-62066-V and Calpain 6 shRNA (m) Lentiviral Particles: sc-62067-V.

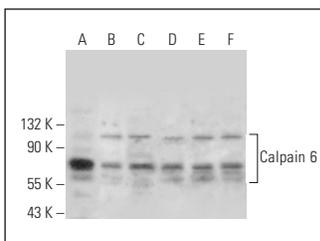
Molecular Weight of Calpain 6: 74 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, SJRH30 cell lysate: sc-2287 or K-562 whole cell lysate: sc-2203.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Calpain 6 (T-16): sc-54710. Western blot analysis of Calpain 6 expression in Neuro-2A (A), NTERA-2 cl.D1 (B), SJRH30 (C), HEK293 (D), HL-60 (E) and K-562 (F) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Rho, S.B., et al. 2008. Calpain 6 supports tumorigenesis by inhibiting apoptosis and facilitating angiogenesis. *Cancer Lett.* 271: 306-313.

## RESEARCH USE

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