

Calpain 12 (T-19): sc-54782

BACKGROUND

Calpains are calcium-activated thiol proteases. They are heterodimers with one large subunit and one small subunit. The large subunit varies between family members and can be active without the small subunit. Calpains are involved in intracellular processing of proteins. Calpain 12 is a typical calpain with protease and calcium binding domains. It is expressed ubiquitously, with a very high level of expression in the cortex of the hair follicle during the hair cycle anagen phase. The modification of Calpain 12, together with α Enolase and ATP5B, may play a significant role in plaque deposition of the brain.

REFERENCES

- Dear, T.N., et al. 1999. Diverse mRNA expression patterns of the mouse calpain genes Capn5, Capn6 and Capn11 during development. *Mech. Dev.* 89: 201-209.
- Dear, T.N., et al. 2000. Gene structure, chromosomal localization and expression pattern of Capn12, a new member of the calpain large subunit gene family. *Genomics* 68: 152-160.
- Huang, Y., et al. 2001. The calpain family and human disease. *Trends Mol. Med.* 7: 355-362.
- Gafni, J., et al. 2004. Inhibition of calpain cleavage of Huntingtin reduces toxicity: accumulation of calpain/caspase fragments in the nucleus. *J. Biol. Chem.* 279: 20211-20220.
- Suzuki, K., et al. 2004. Structure, activation and biology of calpain. *Diabetes* 53: S12-S18.
- Shin, S.J., et al. 2004. Profiling proteins related to amyloid deposited brain of Tg2576 mice. *Proteomics* 4: 3359-3368.
- Ben-Aharon, I., et al. 2006. Calpain 11 is unique to mouse spermatogenic cells. *Mol. Reprod. Dev.* 7: 767-773.
- Hou, S.T., et al. 2006. Calpain-cleaved collapsin response mediator protein-3 induces neuronal death after glutamate toxicity and cerebral ischemia. *J. Neurosci.* 2: 2241-2249.

CHROMOSOMAL LOCATION

Genetic locus: CAPN12 (human) mapping to 19q13.2; Capn12 (mouse) mapping to 7 A3.

SOURCE

Calpain 12 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of calpain 12 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54782 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Calpain 12 (T-19) is recommended for detection of calpain 12 of mouse, rat and human 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).

Calpain 12 (T-19) is also recommended for detection of calpain 12 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Calpain 12 siRNA (h): sc-62060, Calpain 12 siRNA (m): sc-62061, Calpain 12 shRNA Plasmid (h): sc-62060-SH, Calpain 12 shRNA Plasmid (m): sc-62061-SH, Calpain 12 shRNA (h) Lentiviral Particles: sc-62060-V and Calpain 12 shRNA (m) Lentiviral Particles: sc-62061-V.

Molecular Weight of Calpain 12: 81 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.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. 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 or our catalog for detailed protocols and support products.