Calpain 13 (P-16): sc-54788

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BIOTECHNOLOGY

The Power to Question

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 13, also called Sol H, is the most divergent caplain member. It is a homolog of Sol, an optic lobe gene product of *Drosophila*. Calpain 13 is a member of the non-EF-hand sub-family of calpains. It is composed of four domains and consists of 423 amino acid residues. Calpain 13 has a limited tissue distribution, but has been found in human brain, testis and lung tissue.

REFERENCES

1. 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.

2. Huang, Y., et al. 2001. The calpain family and human disease. Trends Mol. Med. 7: 355-362.

3. Dear, T.N., et al. 2001. Identification and characterization of two novel calpain large subunit genes. Gene 274: 245-252.

4. Suzuki, K., et al. 2004. Structure, activation and biology of calpain. Diabetes 53: S12-S18.

5. 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.

6. Ben-Aharon, I., et al. 2006. Calpain 11 is unique to mouse spermatogenic cells. Mol. Reprod. Dev. 73: 767-773.

7. Hou, S.T., et al. 2006. Calpain-cleaved collapsin response mediator protein-3 induces neuronal death after glutamate toxicity and cerebral ischemia. J. Neurosci. 26: 2241-2249.

8. Saez, M.E., et al. 2006. The therapeutic potential of the calpain family: new aspects. Drug Discov. Today 11: 917-923.

CHROMOSOMAL LOCATION

Genetic locus: CAPN13 (human) mapping to 2p22-p21; Capn13 (mouse) mapping to 17 E2.

SOURCE

Calpain 13 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Calpain 13 of rat 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-54788 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Calpain 13 (P-16) is recommended for detection of calpain 13 of rat 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).

Molecular Weight of Calpain 13: 76 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) Immunoprecip-itation: 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
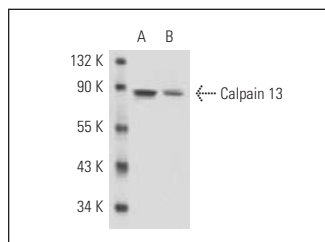
Calpain 13 (P-16): sc-54788. Western blot analysis of Calpain 13 expression in rat lung (**A**) and rat spleen (**B**) tissue extracts.

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.