

Calpain 3 (N-17): sc-23500

BACKGROUND

Calpain, an intracellular calcium-dependent protease that cleaves cytoskeletal and submembranous proteins, plays a role in cytoskeletal reorganization and muscle protein degradation. Calpain is a heterodimer composed of a small regulatory subunit and one of three large catalytic subunits, designated calpain 1, calpain 2 and calpain 3. Calpain 3 (calpain p94) is a muscle-preferred calcium activated neutral protease that localizes to the nucleus. The gene encoding human calpain 3 maps to chromosome 15q15.1. Mutations involving the calpain 3 gene are associated with limb-girdle muscle dystrophy type 2A, a form of autosomal recessive and progressive neuromuscular disorder. Calpastatin regulates calpain by inhibiting both the proteolytic activity of calpain and its binding to membranes. Calpastatin exists in two types, tissue type and erythrocyte type, resulting from both alternative splicing and proteolytic processing.

REFERENCES

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4. Richard, I., et al. 1993. Mutations in the proteolytic enzyme calpain 3 cause limb-girdle muscular dystrophy type 2A. *Cell* 81: 27-40.
5. Sorimachi, H., et al. 1993. Muscle-specific calpain, p94, is degraded by autolysis immediately after translation, resulting in disappearance from muscle. *J. Biol. Chem.* 268: 10593-10605.
6. Kawasaki, H., et al. 1997. Regulation of the calpain-calpastatin system by membranes (review). *Mol. Membr. Biol.* 13: 217-224.
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CHROMOSOMAL LOCATION

Genetic locus: CAPN3 (human) mapping to 15q15.1; Capn3 (mouse) mapping to 2 E5.

SOURCE

Calpain 3 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Calpain 3 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-23500 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Calpain 3 (N-17) is recommended for detection of Calpain 3 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 3 (N-17) is also recommended for detection of Calpain 3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Calpain 3 siRNA (h): sc-41461, Calpain 3 siRNA (m): sc-41462, Calpain 3 shRNA Plasmid (h): sc-41461-SH, Calpain 3 shRNA Plasmid (m): sc-41462-SH, Calpain 3 shRNA (h) Lentiviral Particles: sc-41461-V and Calpain 3 shRNA (m) Lentiviral Particles: sc-41462-V.

Molecular Weight of Calpain 3: 94 kDa.

Positive Controls: mouse brain extract: sc-2253.

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.



Try **Calpain 3 (E-6): sc-365277**, our highly recommended monoclonal alternative to Calpain 3 (N-17).