Calpain 1 (D-11): sc-271313

**BACKGROUND**

Calpain 1, also designated μ-Calpain, is an intracellular calcium-dependent protease that cleaves cytoskeletal and submembranous proteins. Calpains are nonlysosomal, calcium-activated intracellular cysteine proteases. Calpains mediate specific Ca²⁺-dependent processes including cell fusion, mitosis and meiosis. Calpains are heterodimers of a small regulatory subunit and one of three large catalytic subunits, designated Calpain 1, Calpain 2 and Calpain p94. 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. Calpain 1 co-localizes with human leukocyte antigen-DR (HLA-DR) on activated microglia in the aging brain. Calpain influences the process of spermatogenesis and the events preceding fertilization, such as the acrosome reaction.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: CAPN1 (human) mapping to 11q13.1; Capn1 (mouse) mapping to 19 A.

**SOURCE**

Calpain 1 (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids B-33 near the N-terminus of Calpain 1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG, kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Calpain 1 (D-11) is available conjugated to agarose (sc-271313 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271313 HRP), 200 µg/ml, for WB, IHC/PI and ELISA; to either phycocerythrin (sc-271313 PE), fluorescein (sc-271313 FITC), Alexa Fluor® 488 (sc-271313 AF488), Alexa Fluor® 546 (sc-271313 AF546), Alexa Fluor® 594 (sc-271313 AF594) or Alexa Fluor® 647 (sc-271313 AF647), 200 µg/ml, for WB (RGB), IF, IHC/PI and FCM; and to either Alexa Fluor® 680 (sc-271313 AF680) or Alexa Fluor® 790 (sc-271313 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM. Blocking peptide available for competition studies, sc-271313 P, 100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein.

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**STORAGE**

Store at 4° C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**APPLIED**

Calpain 1 (D-11) is recommended for detection of Calpain 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Calpain 1 siRNA (h): sc-29885, Calpain 1 siRNA (m): sc-29886, Calpain 1 siRNA (r): sc-60099, Calpain 1 siRNA Plasmid (h): sc-29885-SH, Calpain 1 shRNA Plasmid (m): sc-29886-SH, Calpain 1 shRNA Plasmid (r): sc-60099-SH, Calpain 1 shRNA (h) Lentiviral Particles: sc-29885-V, Calpain 1 shRNA (m) Lentiviral Particles: sc-29886-V and Calpain 1 shRNA (r) Lentiviral Particles: sc-60099-V.

Molecular Weight of Calpain 1 large subunit: 80 kDa. Molecular Weight of Calpain 1 small subunit: 80 kDa. Positive Controls: A-431 whole cell lysate: sc-2201, MCF7 whole cell lysate: sc-2206 or TF-1 cell lysate: sc-2412.

**DATA**

![Calpain 1 (D-11) Western Blot](image1)

Calpain 1 (D-11) is near-infrared western analysis of Calpain 1 expression in TF-1 (A), A-431 (B), SCC-4 (C) and MCF7 (D) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG, BP-CFL 790: sc-516181.

![Calpain 1 (D-11) Western Blot](image2)

Calpain 1 (D-11) is near-infrared western analysis of Calpain 1 expression in A-431 (A), SCC-4 (B) and MCF7 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG, BP-CFL 680: sc-516180.

**SELECT PRODUCT CITATIONS**

2. Li, H., et al. 2013. Inhibition of the group I mGluRs reduces acute brain damage and improves long-term histological outcomes after photothermolysis-induced ischemia. ASN Neuro 11: 5.

**RESEARCH USE**

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