**BACKGROUND**

Calpains are nonlysosomal, calcium-activated intracellular cysteine proteases that 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. Calpain 1 is an intracellular calcium-dependent protease that cleaves cytoskeletal and submembranous proteins. 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. 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**


**CHROMOSOMAL LOCATION**

Genetic locus: CAST (human) mapping to 5q15.

**SOURCE**

Calpastatin (A-1) is a mouse monoclonal antibody raised against amino acids 409-708 of Calpastatin of human origin.

**PRODUCT**

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

Calpastatin (A-1) is available conjugated to agarose (sc-376547 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376547 HRP), 200 µg/ml, for WB, (HCPI) and ELISA; to either phycoerythrin (sc-376547 PE), fluorescein (sc-376547 FITC), Alexa Fluor® 488 (sc-376547 AF488), Alexa Fluor® 546 (sc-376547 AF546), Alexa Fluor® 594 (sc-376547 AF594) or Alexa Fluor® 647 (sc-376547 AF647), 200 µg/ml, for WB (RGB), IF, (HCPI) and FCM; and to either Alexa Fluor® 680 (sc-376547 AF680) or Alexa Fluor® 790 (sc-376547 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

Calpastatin (A-1) is recommended for detection of calpastatin of 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), immunohistochemistry (including paraffin-embedded sections) (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 Calpastatin siRNA (h): sc-29889, Calpastatin shRNA Plasmid (h): sc-29888-SH and Calpastatin shRNA (h) Lentiviral Particles: sc-29889-V.

**STORAGE**

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

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