

Calpastatin (C-19): sc-7560

BACKGROUND

Calpains are nonlysosomal, calcium-activated intracellular cysteine proteases that mediate specific Ca^{2+} -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.

CHROMOSOMAL LOCATION

Genetic locus: CAST (human) mapping to 5q15; Cast (mouse) mapping to 13 C1.

SOURCE

Calpastatin (C-19) is available as either goat (sc-7560) or rabbit (sc-7560-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of Calpastatin 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-7560 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Calpastatin (C-19) is recommended for detection of calpastatin of mouse and human 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), 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 siRNA (m): sc-29890, Calpastatin shRNA Plasmid (h): sc-29889-SH, Calpastatin shRNA Plasmid (m): sc-29890-SH, Calpastatin shRNA (h) Lentiviral Particles: sc-29889-V and Calpastatin shRNA (m) Lentiviral Particles: sc-29890-V.

Molecular Weight of Calpastatin: 126 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Calpastatin (h3): 293T Lysate: sc-170217 or WEHI-231 whole cell lysate: sc-2213.

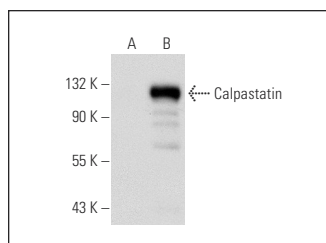
STORAGE

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

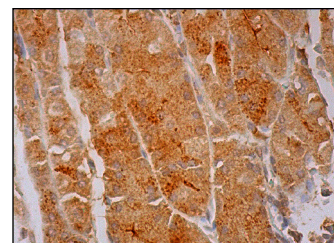
RESEARCH USE

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

DATA



Calpastatin (C-19)-R: sc-7560-R. Western blot analysis of Calpastatin expression in non-transfected: sc-117752 (A) and human Calpastatin transfected: sc-170217 (B) 293T whole cell lysates.



Calpastatin (C-19): sc-7560. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Singh, R.B., et al. 2004. The sarcoplasmic reticulum proteins are targets for Calpain action in the ischemic-reperfused heart. *J. Mol. Cell. Cardiol.* 37: 101-110.
2. Kent, M.P., et al. 2004. Postmortem proteolysis is reduced in transgenic mice overexpressing Calpastatin. *J. Anim. Sci.* 82: 794-801.
3. Dedieu, S., et al. 2004. Myoblast migration is regulated by Calpain through its involvement in cell attachment and cytoskeletal organization. *Exp. Cell Res.* 292: 187-200.
4. Delobel, P., et al. 2005. Proteasome inhibition and Tau proteolysis: an unexpected regulation. *FEBS Lett.* 579: 1-5.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Calpastatin (A-1): sc-376547** or **Calpastatin (PI-11): sc-32324**, our highly recommended monoclonal alternatives to Calpastatin (C-19).