

Legumain (F-10): sc-271312

BACKGROUND

Legumain, also known as LGMN, AEP (asparaginyl endopeptidase) or PRSC1, is a 433 amino acid protein that localizes to the lysosome and belongs to the peptidase C13 family. Expressed ubiquitously with particularly high expression in placenta, heart and kidney, Legumain functions as a cysteine protease that specifically catalyzes the hydrolysis of asparaginyl and aspartyl bonds. Additionally, Legumain is thought to be involved in the processing of bacterial proteins for MHC class II antigen presentation in the lysosomal/endosomal system. Legumain exists as both a precursor and a fully mature, active enzyme that is produced in dendritic cells. Overexpression of Legumain may be associated with the formation of solid tumors, suggesting a role for Legumain in carcinogenesis. Multiple isoforms of Legumain exist due to alternative splicing events.

REFERENCES

1. Tanaka, T., et al. 1996. Molecular cloning of a human cDNA encoding putative cysteine protease (PRSC1) and its chromosome assignment to 14q32.1. *Cytogenet. Cell Genet.* 74: 120-123.
2. Chen, J.M., et al. 1997. Cloning, isolation, and characterization of mammalian legumain, an asparaginyl endopeptidase. *J. Biol. Chem.* 272: 8090-8098.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602620. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Li, D.N., et al. 2003. Multistep autoactivation of asparaginyl endopeptidase *in vitro* and *in vivo*. *J. Biol. Chem.* 278: 38980-38990.
5. Burster, T., et al. 2004. Cathepsin G, and not the asparagine-specific endoprotease, controls the processing of Myelin basic protein in lysosomes from human B lymphocytes. *J. Immunol.* 172: 5495-5503.
6. Murthy, R.V., et al. 2005. Legumain expression in relation to clinicopathologic and biological variables in colorectal cancer. *Clin. Cancer Res.* 11: 2293-2299.

CHROMOSOMAL LOCATION

Genetic locus: LGMN (human) mapping to 14q32.12; Lgm (mouse) mapping to 12 E.

SOURCE

Legumain (F-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 60-100 near the N-terminus of Legumain of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271312 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Legumain (F-10) is recommended for detection of precursor and mature Legumain 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).

Legumain (F-10) is also recommended for detection of precursor and mature Legumain in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Legumain siRNA (h): sc-60930, Legumain siRNA (m): sc-60931, Legumain shRNA Plasmid (h): sc-60930-SH, Legumain shRNA Plasmid (m): sc-60931-SH, Legumain shRNA (h) Lentiviral Particles: sc-60930-V and Legumain shRNA (m) Lentiviral Particles: sc-60931-V.

Molecular Weight of Legumain precursor: 56 kDa.

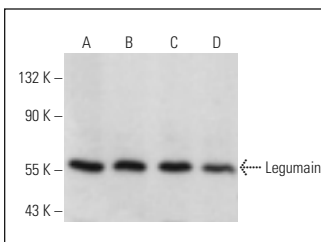
Molecular Weight of active Legumain: 46 kDa.

Positive Controls: Legumain (h): CHO Lysate: sc-110066, NRK whole cell lysate: sc-364197 or JAR cell lysate: sc-2276.

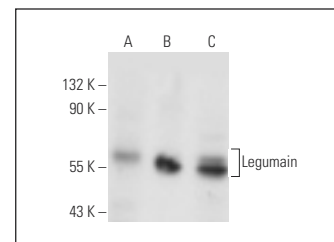
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Legumain (F-10): sc-271312. Western blot analysis of Legumain expression in RAW 264.7 (A), Neuro-2A (B), NRK (C) and RPE-J (D) whole cell lysates.



Legumain (F-10): sc-271312. Western blot analysis of Legumain expression in non-transfected CHO: sc-117750 (A), human Legumain transfected CHO: sc-110066 (B) and JAR (C) whole cell lysates.

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.