SANTA CRUZ BIOTECHNOLOGY, INC.

Legumain (K-12): sc-47103

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. Chen, J.M., et al. 2001. Activation of human prolegumain by cleavage at a C-terminal asparagine residue. Biochem. J. 352: 327-334.
2. Zeeuwen, P.L. 2004. Epidermal differentiation: the role of proteases and their inhibitors. Eur. J. Cell Biol. 83: 761-773.
3. Lecaille, F., et al. 2004. Proteinases participating in the processing and activation of prolegumain in primary cultured rat macrophages. Biol. Chem. 385: 511-516.
4. Murthy, R.V., et al. 2005. Legumain expression in relation to clinicopathologic and biological variables in colorectal cancer. Clin. Cancer Res. 11: 2293-2299.
5. Alvarez-Fernandez, M., et al. 2005. Crystal structure of human cystatin D, a cysteine peptidase inhibitor with restricted inhibition profile. J. Biol. Chem. 280: 18221-18228.
6. Watts, C., et al. 2005. Asparaginyl endopeptidase: case history of a class II MHC compartment protease. Immunol. Rev. 207: 218-228.
7. Maehr, R., et al. 2005. Asparagine endopeptidase is not essential for class II MHC antigen presentation but is required for processing of cathepsin L in mice. J. Immunol. 174: 7066-7074.
8. Moss, C.X., et al. 2005. Asparagine deamidation perturbs antigen presentation on class II major histocompatibility complex molecules. J. Biol. Chem. 280: 18498-18503.

CHROMOSOMAL LOCATION

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

SOURCE

Legumain (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Legumain of human origin.

STORAGE

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

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-47102 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Legumain (K-12) is recommended for detection of precursor and mature Legumain 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).

Legumain (K-12) is also recommended for detection of precursor and mature Legumain in additional species, including canine.

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: JAR cell lysate: sc-2276, KNRK whole cell lysate: sc-2214 or Caki-1 cell lysate: sc-2224.

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.

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.