

Legumain (B-8): sc-133234

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.

CHROMOSOMAL LOCATION

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

SOURCE

Legumain (B-8) is a mouse monoclonal antibody raised against amino acids 21-320 mapping 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.

Legumain (B-8) is available conjugated to agarose (sc-133234 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133234 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133234 PE), fluorescein (sc-133234 FITC), Alexa Fluor[®] 488 (sc-133234 AF488), Alexa Fluor[®] 546 (sc-133234 AF546), Alexa Fluor[®] 594 (sc-133234 AF594) or Alexa Fluor[®] 647 (sc-133234 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-133234 AF680) or Alexa Fluor[®] 790 (sc-133234 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Legumain (B-8) 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), 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 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.

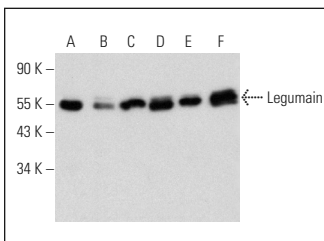
Molecular Weight of active Legumain: 46 kDa.

Positive Controls: HT-29 whole cell lysate: sc-364232, Neuro-2A whole cell lysate: sc-364185 or RAW 264.7 whole cell lysate: sc-2211.

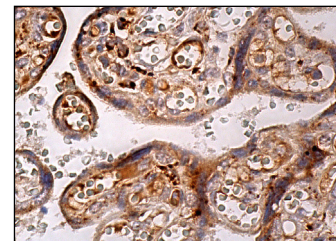
STORAGE

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

DATA



Legumain (B-8): sc-133234. Western blot analysis of Legumain expression in HT-29 (A), HeLa (B), RAW 264.7 (C), Neuro-2A (D), RPE-J (E) and RIN-m5F (F) whole cell lysates.



Legumain (B-8): sc-133234. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

SELECT PRODUCT CITATIONS

- Jafari, A., et al. 2017. Legumain regulates differentiation fate of human bone marrow stromal cells and is altered in postmenopausal osteoporosis. *Stem Cell Rep.* 8: 373-386.
- Jakoš, T., et al. 2020. Cysteine cathepsins L and X differentially modulate interactions between myeloid-derived suppressor cells and tumor cells. *Cancer Immunol. Immunother.* 69: 1869-1880.
- Yang, H., et al. 2020. Legumain is a predictor of all-cause mortality and potential therapeutic target in acute myocardial infarction. *Cell Death Dis.* 11: 1014.
- Zhao, T., et al. 2021. Esomeprazole inhibits the lysosomal cysteine protease Legumain to prevent cancer metastasis. *Invest. New Drugs* 39: 337-347.
- Tu, N.H., et al. 2021. Legumain induces oral cancer pain by biased agonism of protease-activated receptor-2. *J. Neurosci.* 41: 193-210.
- Shi, Y., et al. 2021. Overexpressing low-density lipoprotein receptor reduces Tau-associated neurodegeneration in relation to apoE-linked mechanisms. *Neuron* 109: 2413-2426.e7.
- Perišić Nanut, M., et al. 2021. Human CD4⁺ T-cell clone expansion leads to the expression of the cysteine peptidase inhibitor cystatin F. *Int. J. Mol. Sci.* 22: 8408.
- Lei, C., et al. 2022. Asparaginyl endopeptidase protects against podocyte injury in diabetic nephropathy through cleaving cofilin-1. *Cell Death Dis.* 13: 184.
- Xu, Q.Q., et al. 2023. Patchouli alcohol attenuates the cognitive deficits in a transgenic mouse model of Alzheimer's disease via modulating neuropathology and gut microbiota through suppressing C/EBPβ/AEP pathway. *J. Neuroinflammation.* 20: 19.

RESEARCH USE

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

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