

Lysozyme C (E-8): sc-518058

BACKGROUND

The origins of the lysozyme proteins date back an estimated 400 to 600 million years. Generally, lysozyme genes are relatively small, roughly 10 kilobases in length, and composed of four exons and three introns. Originally a bacteriolytic defensive agent, the function of this family of proteins adapted to serve a digestive function in its present forms. Lysozymes in tissues and body fluids are associated with the monocyte-macrophage system and enhance the activity of immunoagents. Lysozyme C belongs to the glycosyl hydrolase 22 family, and newly identified relatives of Lysozyme C appear to possess anti-HIV activity, as well as preserved bacteriolytic function against *Micrococcus lysodeikticus*. Lysozyme C is capable of both hydrolysis and transglycosylation and also a slight esterase activity. It acts rapidly on both peptide-substituted and unsubstituted peptidoglycan, and slowly on chitin oligosaccharides. Lysozyme C defects are a cause of amyloidosis VIII, also called familial visceral or Ostertag-type amyloidosis.

REFERENCES

1. Canfield, R.E., et al. 1971. Primary structure of lysozymes from man and goose. *Nat. New Biol.* 232: 16-17.
2. Peters, C.W., et al. 1989. The human lysozyme gene. Sequence organization and chromosomal localization. *Eur. J. Biochem.* 182: 507-516.
3. Irwin, D.M., et al. 1996. Isolation and characterization of vertebrate lysozyme genes. *EXS* 75: 225-241.
4. Qasba, P.K., et al. 1997. Molecular divergence of lysozymes and α -lactalbumin. *Crit. Rev. Biochem. Mol. Biol.* 32: 255-306.
5. Lee-Huang, S., et al. 1999. Lysozyme and RNases as anti-HIV components in β -core preparations of human chorionic gonadotropin. *Proc. Natl. Acad. Sci. USA* 96: 2678-2681.
6. Fujiki, K., et al. 2000. Molecular cloning of carp (*Cyprinus carpio*) leucocyte cell-derived chemotaxin 2, glia maturation factor β , CD45 and Lysozyme C by use of suppression subtractive hybridisation. *Fish Shellfish Immunol.* 10: 643-650.
7. Liu, F., et al. 2002. Cloning and expression pattern of the Lysozyme C gene in zebrafish. *Mech. Dev.* 113: 69-72.

CHROMOSOMAL LOCATION

Genetic locus: LYZ (human) mapping to 12q15.

SOURCE

Lysozyme C (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 114-142 at the C-terminus of Lysozyme C of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

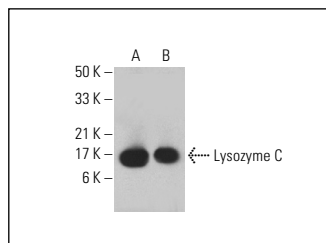
Lysozyme C (E-8) is recommended for detection of Lysozyme C of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Lysozyme C siRNA (h): sc-45935, Lysozyme C shRNA Plasmid (h): sc-45935-SH and Lysozyme C shRNA (h) Lentiviral Particles: sc-45935-V.

Molecular Weight of Lysozyme C: 17 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or WiDr cell lysate: sc-24779.

DATA



Lysozyme C (E-8): sc-518058. Western blot analysis of Lysozyme C expression in HL-60 (A) and WiDr (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lu, R., et al. 2021. Paneth cell alertness to pathogens maintained by vitamin D receptors. *Gastroenterology* 160: 1269-1283.
2. Alula, K.M., et al. 2023. Interplay of gut microbiota and host epithelial mitochondrial dysfunction is necessary for the development of spontaneous intestinal inflammation in mice. *Microbiome* 11: 256.

STORAGE

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

PROTOCOLS

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