

Data Sheet

Product Name:	Lysozyme
Cat. No.:	CS-7636
CAS No.:	9001-63-2
Target:	Bacterial; Interleukin Related; TGF- β Receptor; TNF Receptor
Pathway:	Anti-infection; Apoptosis; Immunology/Inflammation; TGF-beta/Smad
Solubility:	H ₂ O : 4.76 mg/mL (ultrasonic; adjust pH to 4 with 0.1 M HCL)

Lysozyme

BIOLOGICAL ACTIVITY:

Lysozyme (Muramidase) is a conserved antimicrobial protein. Lysozyme exerts its bactericidal effect by hydrolyzing bacterial cell wall peptidoglycan (PG). Lysozyme plays an important role in limiting bacterial growth on mucosal surfaces and other sites, not only controlling potential pathogens but also limiting overgrowth of microbiota to prevent dysbiosis. Extracellular lysozyme can also degrade polymeric PG into soluble fragments, activate **NOD** receptors in mucosal epithelial cells, and lead to the secretion of chemokines and activating factors by neutrophils and macrophages^{[1][2]}. *In Vivo*: Lysozyme M-deficient mice (lysozyme M^{-/-}) increases susceptibility to *Klebsiella pneumoniae* infection, whereas mice with increased lysozyme expression (lysozyme^{tg}) increases resistance to infection and improved survival^[3].

Hen Egg Lysozyme (150 mg/kg; i.g.; once daily for 5 days) reduces the extent of inflammation and modulated local gene expression in a piglet model of dextran sodium sulfate (DSS)-induced colitis^[4].

References:

[1]. Feingold DS, et al. Locus of the action of serum and the role of lysozyme in the serum bactericidal reaction. J Bacteriol. 1968 Dec;96(6):2118-26.

[2]. Ragland S A, et al. From bacterial killing to immune modulation: Recent insights into the functions of lysozyme[J]. PLoS pathogens, 2017, 13(9): e1006512.

[3]. Markart P, et al. Mouse lysozyme M is important in pulmonary host defense against *Klebsiella pneumoniae* infection[J]. American journal of respiratory and critical care medicine, 2004, 169(4): 454-458.

[4]. Lee M, et al. Hen egg lysozyme attenuates inflammation and modulates local gene expression in a porcine model of dextran sodium sulfate (DSS)-induced colitis[J]. Journal of agricultural and food chemistry, 2009, 57(6): 2233-2240.

CAIndexNames:

Lysozyme

SMILES:

[Lysozyme]

Caution: Product has not been fully validated for medical applications. For research use only.

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