

Data Sheet

Product Name:	Lysozyme from chicken egg white	
Cat. No.:	CS-7671	
CAS No.:	12650-88-3	
Target:	Bacterial; HIV	
Pathway:	Anti-infection	Lysozyme(chicken egg white)
Solubility:	H ₂ O : 10 mg/mL (ultrasonic;warming)	

BIOLOGICAL ACTIVITY:

Lysozyme from chicken egg white is a bactericidal enzyme, and it lyses gram-positive **bacteria**. Lysozyme from chicken egg white can also be used for the research of **HIV** infection and pulmonary emphysema^{[1][2][3]}. IC₅₀ & Target:Bacteria^[1] *In Vitro*: Lysozyme is an ubiquitous enzyme. The hen egg is the most abundant source of Lysozyme, which constitutes approximately 3.4% of the albumen proteins. Lysozyme is a natural antimicrobial that hydrolyzes the $\beta(1-4)$ glycosidic linkage between N-acetylmuramic acid and N-acetylglucosamine found in the peptidoglycan layer of the bacterial cell wall and causing cell lysis. The bactericidal effect of Lysozyme is primarily limited to gram-positive bacteria, including pathogens such as *Listeria monocytogenes* and certain *Clostridium* species as well as some spoilage organisms, including thermophilic spore-forming bacteria and certain yeasts. The gram-negative bacteria are more resistant to Lysozyme action because of their complex cell wall structure^[1].

Lysozyme (1 mg/mL) impairs the ability of hyaluronan (HA) to prevent elastase injury to elastic fibers^[3]. *In Vivo*: Syrian hamsters exposes to aerosolized Lysozyme (20 mg in 20 ml of water; 50 min) prior to elastase administration shows significantly increased airspace enlargement^[3].

PROTOCOL (Extracted from published papers and Only for reference)

Kinase Assay: ^[1]For measurement of lytic activity in egg white at each pH, temperature, and CO₂ condition, eggs are randomly selected from a flat of eggs (2 dozen eggs) obtained from a local grocery store. To determine the amount of egg white to be added to obtain a 0.001% lysozyme concentration, it is documented that chicken egg white contains approximately 3.4% lysozyme. For determining egg white activity, 0.030 g of albumen was added to 100 mL of the buffered solutions. This equated to a concentration of approximately 0.001% lysozyme. In addition, the egg white contains other antimicrobial proteins that are naturally present, as mentioned in the Introduction section^[1].

References:

- [1]. Banerjee P, et al. Influence of carbon dioxide on the activity of chicken egg white lysozyme. Poult Sci. 2011 Apr;90(4):889-95.
- [2]. Jing T, et al. Magnetic molecularly imprinted nanoparticles for recognition of lysozyme. Biosens Bioelectron. 2010 Oct 15;26(2):301-6.
- [3]. Cantor JO, et al. The effect of lysozyme on elastase-mediated injury. Exp Biol Med (Maywood). 2002 Feb;227(2):108-13.

CAIndexNames:

Lysozyme (chicken egg white)

SMILES:

[Lysozyme(chicken egg white)]

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

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