

## Lysozyme From Chicken Eggs (Food Grade)

Cat. No. LYZ-65E Lot. No. (See product label)

### SPECIFICATION

<b>Species</b>	Chicken
<b>Source</b>	Chicken Egg
<b>Description</b>	<p>Lysozyme is an enzyme found in egg white, tears, and other secretions. Lysozyme is responsible for attacking &amp; breaking down the polysaccharide walls of many kinds of bacteria and thus it provides some protection against infection. Bacteria build a tough skin of carbohydrate chains, interlocked by short peptide strands, that braces their delicate membrane against the cell's high osmotic pressure. Lysozyme breaks these carbohydrate chains, destroying the structural integrity of the cell wall. The bacteria burst under their own internal pressure. Lysozyme (muramidase) hydrolyzes preferentially the <math>\beta</math>-1,4 glucosidic linkages between N-acetylmuramic acid and N-acetylglucosamine which occur in the mucopeptide cell wall. Lysozyme is a mediator in the anti-tumor function of macrophages which, it has been shown, secrete the enzyme. Cartilage lysozyme has a role in cartilage calcification. Presence of the Lysozyme in cerebrospinal fluid is indicative of tumor of the central nervous system, normally lysozyme activity is practically absent from urine, bile and spinal fluid.</p>
<b>Appearance</b>	Sterile Filtered white lyophilized powder.
<b>CAS Number</b>	12650-88-3
<b>Specific Activity</b>	$\geq 20\text{KU/mg protein}$
<b>Unit definition</b>	One unit will produce a change in A450 of 0.001 per minute at pH 6.24 at 25 oC,

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using a suspension of *Micrococcus lysodeikticus* as substrate, in a 2.6 ml reaction mixture (1 cm light path).

**Molecular Weight** 14.3 kDa (amino acid sequence)

**Isoelectric point** 11.35

**Optimum temperature** 2-8 oC

**Optimum pH** 5.3-6.4

**Inhibitors** Lysozyme is inhibited by indole derivatives, which bind to and distort the active site, and imidazole, which induces the formation of a charge-transfer complex. It is also inhibited by surface-active agents such as sodium dodecyl sulfate, sodium dodecanate, and dodecyl alcohol. Other compounds of these types with carbon chains of 12 or more carbons in length will also inhibit lysozyme.

**Preparation Instructions** For *E. coli* cell lysis, use a freshly prepared lysozyme solution (10 mg/ml) in 10 mM Tris-HCl, pH 8.0. Aqueous solutions should retain activity for at least one month when stored between 2–8 oC.

**Storage Temperature** 2-8 oC

## GENE INFORMATION

**Gene Name** LYZ lysozyme (renal amyloidosis) [ *Gallus gallus* ]

**Official Symbol** LYZ

**Synonyms** LYZ; lysozyme; LYZC

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<b>Gene ID</b>	396218
<b>mRNA Refseq</b>	NM_205281
<b>Protein Refseq</b>	NP_990612
<b>UniProt ID</b>	P00698
<b>Function</b>	hydrolase activity, acting on glycosyl bonds; lysozyme activity; protein binding

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