

## Pharmaceutical and Healthcare

### Application



The use of lysozyme in pharmaceuticals and health care has been quite broad in scope and application. Historical research has proven that lysozyme is effective in lysing the cell walls of gram positive bacteria as well as having a chitinase-like activity on certain fungus. The focus of the research then led to specific work in the areas of problematic microbes in clinical applications. The potential applications can be quite far-ranging including topical bacteria and fungi, problematic oral flora, and even viruses.

### Description

The function of lysozyme in lysing cell walls of bacteria has led to its inclusion in many cold products such as tablets and capsules. One of the initial products for this application is a preparation of lysozyme in a throat lozenge for treating mouth and throat infections. Also, early work confirmed the efficacy of a lysozyme preparation in inhibiting the influenza virus. This efficacy against viruses led to further research on the use of lysozyme in treatment of the Herpes viruses, including H. Zooster and H. Simplex. More recent research has confirmed that lysozyme and another naturally occurring human enzyme,

Deoxyribonuclease, can control propagation of the AIDS virus.

In Asia, where the use of lysozyme in over-the-counter products is very common, different products include treatment of colds, infection, sore throats, sinusitis and athlete's foot.



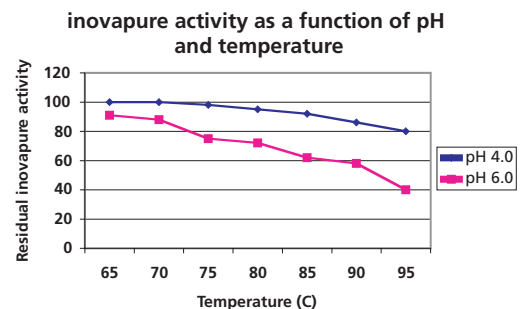
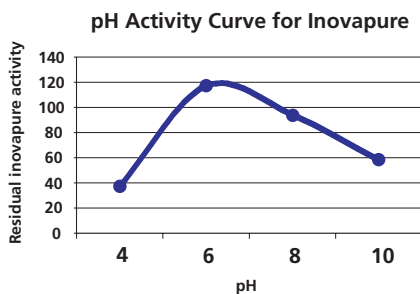
### Purity/Activity

Inovatech's lysozyme, called inovapure, is made in three forms: powder, granulate, and liquid. The powder and granulate are pure forms of the lysozyme enzyme, at approximately 94% purity. The remainder of the powder or granulate content is the residual moisture from drying. There are no excipients in the product. The liquid inovapure is a solution of lysozyme in purified water.

Activity of all the products is based on the Food Chemical Codex method for determination of lysozyme activity. Typically, the powder and granulate will have 24,000 Shugar Units per milligram and the liquid will have the usual activity of the powder or granulate on a weight of solids versus weight of liquid basis.

### Optimal Conditions

inovapure is a physiological enzyme and therefore will have its maximum rate of lysis under physiological conditions, i.e. a pH of 6.5 and 40°C, but it is active over a wide pH and temperature range.



## Usage Levels

The dosage levels in the tablets, capsules and topical creams range from 5 to 15 mgs per 1 gram tablet or capsule, to 0.5% in creams.

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## References:

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