ISOLATION AND PURIFICATION OF LYSOZYME FROM THE HEN EGG WHITE

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The aim of the research was the development of the method of lysozyme isolation from hen egg proteins. Lysozyme was isolated by differential heat denaturation of proteins with changing of the medium pH value, followed by neutralization, dialysis and additional purification by gel chromatography on Sephadex G-50. Activity was determined by bacteriolytic method (with *Micrococcus lysodeikticus* 4698 as a substrate). The enzyme purity and molecular mass were determined using SDS-electrophoresis and mass spectrometry.

The method of lysozyme isolation from hen egg proteins with the enzyme yield of 3.2 ± 0.2% and bacteriolytic activity of 22 025 ± 1 500 U/mg is modified. According to electrophoresis data, the isolated enzyme is characterized by high degree of purity (~95–98%) and is comparable with lysozyme of AppliChem company by main physical and chemical characteristics. The obtaining product is stored in a crystalline form at low temperature (~24 °C) for 9 months. The proposed method allows obtaining active and stable lysozyme with high purity from hen egg protein in laboratory conditions for the usage in biotechnology.

**Key words:** hen egg protein, lysozyme.

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