

Relationship between ultrafiltration hydrodynamic properties and antibacterial activity of lysozyme

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The interest for protein use as food supplement, vaccines, antibiotics and biopharmaceutical enzymes increased in the last two decades.^[1] High quality product is required for the final customer, which implies the processing of proteins like purification, concentration, mixing, heating and pumping. These processes could induce changes in protein conformation and/or denaturation, interfering on its biological activity.^[2] Hen Egg White Lysozyme (LSZ) is a globular small protein (14kDa) that presents antibacterial action through cell wall destruction by polysaccharide hydrolysis.^[3] In the present investigation, lysozyme was ultrafiltered at different pressures, ranging from 4 to 12 bar and the effect on antibacterial activity against *Micrococcus Lysodeikticus* was evaluated. The results showed a relationship between the lysozyme antibacterial activity and hydrodynamic properties in the membrane such as permeability and rejection rate, indicating that pore size should be taken into account when processing proteins.

References:

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