

Lactoperoxidase: physico-chemical properties, occurrence, mechanism of action and applications.

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Abstract

Lactoperoxidase (LP) is one of the most prominent enzymes in bovine milk and catalyses the inactivation of a wide range of micro-organisms in the lactoperoxidase system (LP-s). LP-systems are also identified as natural antimicrobial systems in human secretions such as saliva, tear-fluid and milk and are found to be harmless to mammalian cells. The detailed molecular structure of LP is identified and the major products generated by the LP-s and their antimicrobial action have been elucidated for the greater part. In this paper several aspects of bovine LP and LP-s are discussed, including physico-chemical properties, occurrence in milk and colostrum and mechanisms of action. Since the introduction of industrial processes for the isolation of LP from milk and whey the interest in this enzyme has increased considerably and attention will be paid to potential and actual applications of LP-systems as biopreservatives in food and other products.

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