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Anti microbial agents in milk and dairy products

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Milk and milk products contain several antimicrobial activities including naturally occurring antimicrobial agents, for instance, lactoferrin and lysozyme, and other antimicrobial factors especially those produced as a result of microbial and probiotic activities. Lysozyme for example is a bacteriolytic enzyme naturally present in milk and in the albumen of birds' eggs, which helps to protect the developing egg from microbial attack. Like nisin, lysozyme has been found to be effective against the clostridia that cause late blowing in cheese. It can also inhibit growth of Gram-positive spoilage organisms and pathogens, including *Listeria* and *Bacillus cereus*. Lysozyme has been commercialized and is available in purified preparations like inovapure(tm) marketed by Neova Technologies. Another example the lactoperoxidase system which relies on reactivating the enzyme lactoperoxidase, naturally present in raw milk, by adding thiocyanate and a source of peroxide. The effect is to block bacterial metabolism and inhibit growth, so extending the shelf life of raw milk. Thus the mode of action, the health beneficial impact, and the applications of different antimicrobial agents may be present in milk and milk products will be considered in this lecture.

Biography

Hussein Azzaz Murad studied continuous cultivation of microorganisms in the Institute of Microbiology, Prague, Czechoslovakia before obtaining his PhD from Zagazig University, Egypt in Food Microbiology. He is Professor of Food Microbiology, National Research Center, Egypt. He prepared and managed several training courses in food safety, HACCP, ISO 22000 and fermentations. He supervised several MSc and PhD studies in Food Microbiology. He is the reviewer/editor of five journals of Science Alert and has published over 50 papers in national and international journals and conferences.

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