

Isolation and Characterization of Probiotic Microorganisms from Different Milk Samples and Assessment of Their Antioxidative Activity

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Abstract Probiotics are microbes that enhance the health and immune system of the host. Probiotic microbes have been reported from different milk samples. Probiotics help directly for enhancing resistance against intestinal pathogens and in the prevention of diseases. Probiotic bacteria may produce various compounds, which are inhibitory to the pathogen's growth, which include organic acids like lactic and acetic acids, bacteriocins, and reuterin. The organic acids not only lower the pH, thereby affecting the growth of the pathogen, but they can also be toxic to the microbes. In the present study we are investigating the antioxidative potential of different probiotic microorganisms. We have isolated and characterised many bacteria from different milk samples. Experimental results confirm the presence of antioxidative enzyme Catalase in many probiotic microbes. Catalase is an extraordinary enzyme that converts hydrogen peroxide to water and molecular oxygen. Catalase performs its rapid destruction of hydrogen peroxide in two steps. Catalase also uses hydrogen peroxide to oxidize toxins such as phenols, formic acid, formaldehyde and alcohols. Enhancing the antioxidative potential of probiotic microbes can aid in increment in their health benefits and can open new avenues.

Keywords: Probiotics, bacteriocins, reuterin Antioxidative, Catalase.