

ABSTRACT

Probiotics are being useful in treatment and prevention of various gastrointestinal tract disorders and maintaining good health. The key mechanism behind it is countering of free radicals generated in various disorders. Current project work focuses on isolation of lactobacilli from milk sources and their antimicrobial and antioxidant activities were also assessed. Moreover, more recent methods of determining aggregation and adhesion abilities were performed. These properties of probiotic strains play an important role in elimination of pathogen from gastrointestinal tract. Antioxidant, antibacterial and aggregation properties of potential probiotic isolates have been studied together for the first time in the current work. Two isolates were obtained from the dairy samples, curd and cheese. Morphological and biochemical tests indicated that the isolate 1 and isolate 2 might be *L.salivarius* and *L.acidophilus*, respectively. Isolate 1 shows better antioxidant, antibacterial and *in vitro* adhesion properties in comparison with isolates 2. Viability of these isolates was determined under different conditions such as low pH, high NaCl concentration and high sucrose concentration. Their survival ability under different conditions was comparable to that of commercial probiotics. This signifies the importance of the isolates as potential probiotics. Molecular characterization of above-mentioned isolates needs to be done. There is a lot of scope of these studies in India as research in this field is in its infant stage. India is also one of the largest manufacturers of dairy products. So, considering these facts India has great potential in development of probiotics which provide various health benefits along with normal diet.