

## Probiotic properties of some lactic acid bacteria isolated from intestine of cultured common carp, *Cyprinus carpio*, in Khuzestan province

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### Abstract

In recent years, using suitable probiotic bacteria is one of the big concerns in aquaculture industry. For each species presence of lactic acid bacteria in the gut of that species, makes them a suitable probiotic candidate as food additive. In this study, lactic acid bacteria of intestine of common carp from captured fish ponds of Khuzestan province were examined. For this purpose 30 fish from several ponds were sampled. Lactic acid bacteria were isolated using specific culture media and identified by biochemical and molecular tests. Definite identification was performed by the PCR method and sequencing. The isolated probiotic bacteria identified as *Enterococcus gallinarum*, *Enterococcus casseliflavus*, *Lactococcus lactis*, and *Staphylococcus hominis*. The bacteria isolated in this study were able to grow in the temperature range of 25-45 ° C, pH range of 3 to 9, media salinity containing 1-4% NaCl, and most of them in different bile doses of 7.5-2.5%. Assessing the antagonistic activity of these isolates showed that they have a relative ability when compared with a model bacteria (*Aeromonas hydrophila*). However, the results showed that the isolated bacteria were sensitive to the commonly used antibiotics in aquatic animals. The bacteria were appeared genetically similar to the bacteria that isolated from commercial products and aquatic organisms of Indonesia, China, Japan, The United States and India. This study is the first report of isolation and identification of *Enterococcus* spp with probiotic capabilities in common carp in Iran as Iranian strain.

**Key words:** *Cyprinus carpio*, Probiotic, Lactic acid bacteria, Khuzestan

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