



## Effect of nutrition with *Lactobacillus Casei* on the expression of interleukin-10 gene in zebrafish

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### Abstract

Nowadays, proper diet is one of the most important factors in aquaculture. In this regard, probiotics are among the most important compounds that increase feed efficiency, growth, and immune stimulation. This study was performed on 300 zebrafish with the mean weight and length of  $0.25 \pm 0.05$  g and  $2.3 \pm 0.2$  cm, respectively. The fish were divided into two groups of experimental and control with two repetitions. The experimental group received *Lactobacillus Casei* ( $1.5 \times 10^8$  CFU/ml) probiotic for 28 days, while the control group was fed with a commercial diet without any dietary supplements. In this study Sampling was performed on days 0, 14, and 28 of the study to evaluate the effect of probiotic nutrition on IL-10 gene expression.

Based on the results, the expression of IL-10 gene gradually increased on days 14 and 28 of probiotic nutrition. The increase was insignificant on day 14 ( $P > 0.05$ ) and significant on day 28 ( $P < 0.05$ ), compared to control group.

**Keywords:** Probiotic, *Lactobacillus Casei*, IL-10, Zebrafish