

Lactococcus lactis: LAB model organism for bacteria-mediated therapeutic strategies

ABSTRACT

Lactococcus lactis is a well-characterized, food-grade lactic acid bacterium (LAB) with generally recognized as safe (GRAS) status. Better understanding of this bacterium at a molecular level has led to the development of unprecedented genetic tools that enable the expression of heterologous proteins. Subsequently, the ability of *L. lactis* to express and deliver these proteins to eukaryotic hosts presents a promising approach to achieve potent treatments for various diseases. Here, we have reviewed the characteristics of *L. lactis* and the expression systems established for this LAB model organism. We also described the experimental applications of *L. lactis* in disease therapy, especially its role as a vector in vaccination strategies..

.Keyword: Bactofection; Lactic acid bacteria; Lactococcus lactis; Vaccine; Vector