

ACID-TOLERANT LACTIC ACID BACTERIUM ISOLATED FROM RICE VINEGAR

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ABSTRACT

A lactic acid bacterium which was grown in fermented rice vinegar (pH 2.9, acetic acid 6%) was isolated. The bacterium was identified as *Lactobacillus acetotolerans* according to the homology of 16S rDNA and named *Lb. acetotolerans* HT. The cell concentration of the strain HT was higher than any other species of lactic acid tested when they were grown in MRS medium. The strain HT grew vigorously in the acidic medium added with 2 v/w/% acetic acid of which the growth of other lactic acid bacteria was seriously inhibited. In the batch culture, this acid tolerant strain HT produced 59.5 g/L of DL-lactic acid without maintaining pH and 197.5 g/L of DL-lactic with maintaining pH at 5.5. However, the growth rate of the strain HT was very slow then the fermentation time was long. It is speculated that there exists some unknown growth factor for the strain HT which will shorten the fermentation time

KEYWORD: Lactic Acid Bacterium, *Lactobacillus acetotolerans*, Lactate Fermentation