

Characterization of Acid-tolerant *M. succiniciproducens* by Transcriptome Analysis

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Mannheimia succiniciproducens, a gram-negative rumen bacterium producing succinic acid, was adapted to medium with high-concentration of succinic acid for acid tolerance. Responses of the adapted *M. succiniciproducens* strain to succinic acid shock were investigated based on transcriptome analysis. During the investigations, gene expression levels of the adapted *M. succiniciproducens* strain were compared with a parent strain and the expression patterns after acid shock are classified refer to function of genes. Standing on the transcriptome data, specific genes of *M. succiniciproducens* are selected as targets of genetic manipulations. To improve tolerance for succinic acid, It was tried that overexpression or knock-out experiments of target genes and finding global regulators for acid resistance. [This work was supported by the Genome-Based Integrated Bioprocess Development Project from the Korean Ministry of Education, Science and Technology (No. 2005-01304). Further supports by LG Chem Chair Professorship, and WCU (World Class University) program through the National Research Foundation of Korea are greatly appreciated.]