

Global analysis of succinic acid shock response in *Mannheimia succiniciproducens*

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The response of *Mannheimia succiniciproducens* to succinic acid shock was investigated based on global gene expression profiling. Microarray analysis revealed that cells elicited both general and specific transcriptome responses when challenged with 30 g/l succinic acid conditions over a 30-min period. Specific response to succinic acid stress included the up-regulation of genes encoding transporters (symporters, antiporters, diphosphate bond hydrolysis driven transporters, multi-drug exporter, dicarboxylate transporters), the lysR-type transcriptional regulator, and cell membrane structure. These results suggest that *M. succiniciproducens* regulates multiple transporter, cell envelope, and central intermediary metabolism as part of its transcriptome response to succinic acid shock. [This work was supported by the Korea Science and Engineering Foundation (KOSEF) grant funded by the Korea government (MOST) (2005-01294). Further supports by the LG Chem Chair Professorship, IBM SUR program, Microsoft, and by the KOSEF through the Center for Ultramicrochemical Process Systems are appreciated.].