

Proteomic characteristics of *Mannheimia succiniciproducens* and its succinic acid overproducing mutant in different growth phases

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A capnophilic rumen bacterium, *Mannheimia succiniciproducens* MBEL55E, isolated from bovine rumen is an efficient succinic acid producer. A genetically engineered succinic acid overproducing mutant, *Mannheimia succiniciproducens* LPK7, was developed recently based on full genome sequence. We first established proteome reference map of *M. succiniciproducens* MBEL55E by analyzing whole cellular proteins, membrane proteins and secreted proteins. In this study, cells in the different growth phases of the wild type strain, MBEL55E, and its mutant, LPK7, were analyzed and compared. These revealed valuable information to understand physiological changes during growth and succinic acid overproduction, and subsequently suggested target genes to be manipulated for the further strain improvement. [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.].