

**Markerless gene deletion of
Mannheimia succiniciproducens using a
New Temperature Sensitive Plasmid**

김지만, 이광호, 장세희, 이상엽*
한국과학기술원 생명화학공학과 대사공학연구실
(leesy@kaist.ac.kr*)

Temperature-sensitive plasmid of *Mannheimia succiniciproducens* MBEL55E was generated from the chemical mutagenesis of plasmid pMVSCS1, which is a native plasmid obtained from *Mannheimia varigena*. The Ts plasmid in *M. succiniciproducens* was fully functional at 30°C, but failed to replicate above 42°C. The temperature sensitive plasmid was further modified to generate markerless mutants combined with Cre/loxP system. This result confers that multiple gene deletion in *M. succiniciproducens* can be applied to generate an enhanced succinic acid producing strain. [This work was supported by the Korea Science and Engineering Foundation (KOSEF) grant funded by the Korea government (MOST) (No. 2005-01294). Further supports by the LG Chem Chair Professorship, IBM SUR program, and by the KOSEF through the Center for Ultramicrochemical Process Systems are appreciated].