

Effects of Sodium Bicarbonate on Cell Growth and Succinic Acid Production of *Mannheimia succiniciproducens* MBEL55E in Anaerobic Batch Fermentation

송효학, 이상엽*
한국과학기술원
(leesy@kaist.ac.kr*)

Mannheimia succiniciproducens MBEL55E isolated from Korean bovine rumen produces a large amount of succinic acid under anaerobic conditions. Anaerobic batch fermentations were performed at various concentrations of sodium bicarbonate ranging from 2.5 to 20 g/L in a 5-L reactor. Sodium bicarbonate is normally served as a buffering agent and its solubilized carbon dioxide form in a liquid medium could be used at CO₂-fixation reactions. CO₂-fixation reactions in *M. succiniciproducens* occur for the conversion of phosphoenolpyruvate and pyruvate to oxaloacetate and malate, respectively. The supplementation of sodium carbonate enhanced the production of succinic acid and this work shed light on the development of a process optimization for microbial succinic acid production.

[This work was supported by the Genome-based Integrated Bioprocess Project of the Ministry of Science and Technology. Further supports by the LG Chem Chair Professorship, IBM SUR program, Brain Korea 21 project, and by the KOSEF through the Center for Ultramicrochemical Process Systems are appreciated]