

Effect of carbon source on the growth of *Mannheimia succiniproducens* MBEL55E for succinic acid production metabolism

Hye Won Lee, Ui Sub Jung, Jinwon Lee

Department of Chemical and Biomolecular Engineering, Sogang University,
Seoul, Korea

TEL: +82-2-705-8919, FAX: +82-2-702-7926

Abstract

Succinic acid is applied in industry making food, biodegradable polymers and pharmaceuticals. Succinic acid was produced by fermentation of anaerobic bacteria such as a *mannheimia succiniproducens* MBEL55E. In this study we have investigated several changes of carbon source including glucose, lactose, sucrose, maltose, and fructose, and their effects were examined on the growth of *mannheimia succiniproducens* MBEL55E and succinic acid production. Concentration of succinic acid and other organic byproducts were measured by high-performance liquid chromatography. The results of these experiments were applied to the analysis of succinic acid production metabolism and finding the optimal growth condition.

References

1. Pyung cheon Lee, Woo Gi Lee, Sang Yup Lee, Ho Nam Ghang. Effects of medium components on the growth of *Anaerobiospirillum succiniproducens* and succinic acid production(1999). Process Biochemistry. vol(35)49-55
2. P.C.Lee, S.Y.Lee, S.H.Hong, H.N.Chang. Batch and continuous cultures of *Mannheimia succiniproducens* MBEL55E for the production of succinic acid from whey and corn steep liquor.(2003).Bioprocess Biosyst Eng. vol(26)63-67
3. Pyung cheon Lee, Woo Gi Lee, Sang Yup Lee, Ho Nam Ghang. Succinic Acid Production with Reduced By-Product Formation in the Fermentation of *Anaerobiospirillum succiniproducens* Using Glycerol as a Carbon Source.(2001). Biotechnol Bioeng. vol(72)41-48.