

### Ethanol production using glucose/xylose mixture by *P. stipitis* mutants

장은지, 신현용, 강성우, 서영웅<sup>1</sup>, 김승욱<sup>2,\*</sup>

고려대학교; <sup>1</sup>한국과학기술연구원;

<sup>2</sup>고려대학교 화공생명공학과

(kimsu@korea.ac.kr\*)

To develop the process of bioethanol production, Immobilized Cell Reactor (ICR) was performed with glucose/xylose mixtures by *Saccharomyces cerevisiae* and *Pichia stipitis*. However *S. cerevisiae* cannot ferment xylose and *P. stipitis* is relatively low in ethanol tolerance compared with *S. cerevisiae*. To overcome this problem, we designed the continuous process which xylose was first utilized by *P. stipitis* mutants and then residual glucose was used by *S. cerevisiae*. Also, we developed the strain, which was developed based on *P. stipitis* transformation system using antisense technology and selected *P. stipitis* mutants exhibiting a decreased ability to consume glucose.