

### Stability of lipase from *Mucor javanicus* in ionic liquids

용탄당, 하성호<sup>1</sup>, 이상목, 김중배<sup>2</sup>, 김병찬<sup>2</sup>, 구윤모\*

인하대학교 생물공학과;

<sup>1</sup>인하대학교 초정밀생물분리기술연구센터;

<sup>2</sup>Pacific Northwest National Laboratory, USA

(ymkoo@inha.ac.kr\*)

Ionic liquids hold potential as green solvents because of their negligible vapor pressure and thermal stability, which provide environmental advantages. Recent studies showed the potential use of ionic liquids for enzyme catalysis. In this study, the activities of free and immobilized lipases from *Mucor javanicus* were investigated in phosphate buffer (PB) at pH 6.4. The activities of immobilized lipases were maintained as the incubation time at 37 °C increased whereas the activities of free lipases decreased. The activity of immobilized lipase in amino-mesocellular mesoporous silica (A-MMS-LP) was higher than that of immobilized lipase in mesocellular mesoporous silica (MMS-LP). Then, we tested twenty-three different ionic liquids to investigate their use with lipases. The stabilities and activities of free and immobilized lipases were compared with those in PB.