

**Lovastatin production by fed-batch culture of *Aspergillus terreus***

이인수, 나경아, 전계택<sup>1</sup>, 장용근\*  
한국과학기술원 생명화학공학과; <sup>1</sup>강원대학교 생명과학부  
(ychang@kaist.ac.kr\*)

Hypercholesterolemia is considered an important risk factor in coronary artery disease. Lovastatin selectively inhibits hydroxymethyl glutaryl-coenzyme A reductase, the rate-determining enzyme in cholesterol biosynthesis. To produce lovastatin, batch cultures of *Aspergillus terreus* were carried out for 6 days at 28°C with no pH control and at three different pH's of 6.0, 6.5, 7.0. The initial glucose concentration was 80 g/l. When pH was not controlled, it dropped to about 4.0 and then returned to the initial level of 6.5. The highest lovastatin concentration of 1,220 mg/l was obtained in this case of no pH control, suggesting the autonomous pH change might have played an important role in lovastatin biosynthesis. The total amount of lovastatin was 3660 mg. In the batch cultures, the depletion of carbon sources inhibited lovastatin production. Therefore, fed-batch cultures were conducted to enhance the lovastatin production. When a concentrated feeding solution containing glucose was intermittently supplied by pH-stat method, a lovastatin concentration of 1600 mg/l was obtained in 6 days with a 1.3-fold increase in the volumetric productivity. The total amount of lovastatin was 6080 mg.