

효소 및 생합성 경로 개량을 위한  
FACS기반 방향진화  
(FACS-based directed evolution of enzyme and biosynthetic pathway)

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Currently, industrial enzymes have indeed found significant applications in various bioprocesses but the full realization of their potential has been limited. To acquire the desired properties, enzymes need to be engineered and, for this purpose, directed evolution technique has been the most powerful tool. Directed evolution consists of iterative two-step protocol, initially generating molecular diversity by random mutagenesis, then identifying library members with improvements in desired phenotype by screening or selection, and in many cases, the success of directed evolution highly relies on the employed screening strategy. Our research is also focused on the development of efficient strategy for high throughput screening and particularly, we have developed FACS-based high throughput screening in bacterial hosts. In this presentation, I will introduce new screening strategy for the engineering of industrial enzymes towards enhanced production of biomolecules.