

High level production of Fc-fused kringle domain in *Pichia pastoris*

정구민, 이용재, 김용성¹, 정기준*

KAIST; ¹아주대학교

(kijeong@kaist.ac.kr*)

Due to the low production cost, high affinity and stability of protein scaffolds non-immunoglobulin protein scaffolds are becoming efficient alternative material of traditional antibody proteins for therapeutics and diagnostics. Recently, we engineered human kringle domain for cancer therapeutics and succeed to achieve functional engineered kringle domain. Here, we performed fed-batch fermentation for large scale production of Fc-fused kringle domain (KD548-Fc) in *Pichia pastoris*. For higher production yield, fermentations at various cultivation conditions (concentration of initial carbon source (glycerol), cultivation temperature and pH) were investigated. Under the optimal culture condition, the highest production yield (635 mg/L) could be achieved with a productivity (7.2 mg/L/hr). Furthermore, from the culture broth, the functional KD548-Fc was successfully purified using a simple purification procedure with high purity and recovery yield. The activity of the purified KD548-Fc was also confirmed by ELISA.