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Expression and purification of recombinant phenylalanine 2,3-aminomutase from *Pantoea agglomerans*

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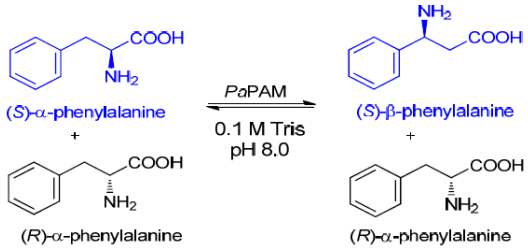
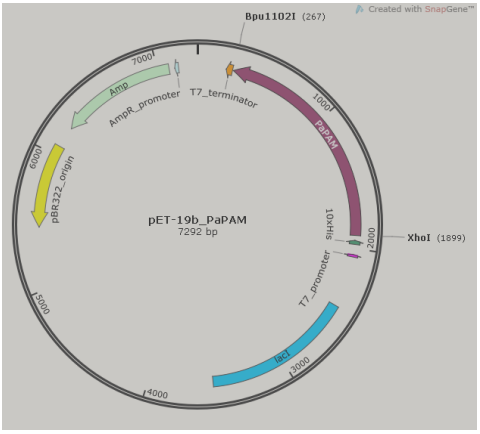
ABSTRACT. In the present study, the gene of phenylalanine 2,3-aminomutase from *Pantoea agglomerans* (*Pa*PAM) was cloned into pET-19b vector and used for its expression in competent *Escherichia coli* cells. The recombinant plasmid, *Pa*PAM-pET-19b, was transformed into competent *E. coli* strain BL21(DE3)pLysS cells. Overnight culture of the transformed bacteria was induced by the addition of isopropylthio-*β*-D-galactoside (IPTG) to the final concentrations of 0.1, 0.5 and 1 mM. Also, the effects of different temperatures (18, 25 and 30°C) and the incubation time of *Pa*PAM were examined. The fermentation process was scaled up to 10 L fermentor. Affinity purification conditions were analyzed by SDS-PAGE. The Tm and the activity of the purified enzyme was also investigated.

Keywords: *phenylalanine 2,3-aminomutase, Pantoea agglomerans, optimization, protein expression*



Transformation of the *rac-α*-phenylalanine by *Pa*PAM



pET-19b-*Pa*PAM vector map