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Effect of *pyk* gene location on constructing dATP conversion *E. coli* strain

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ABSTRACT
A dATP conversion *E. coli* strain could be constructed when both *pyk* and *adk*1 gene were expressed successfully. *pyk* gene encodes pyruvate kinase (PK) could be expressed, when inserted it before *adk*1 gene which encodes adenylate kinase (AK) in plasmid pET-*pyk*-*adk*1 after transform into *E. coli* and the recombinant could be used to convert dATP from dAMP. Another plasmid pET-*adk*1-*pyk*, which inserted *pyk* gene behind of *adk*1, the recombinant *E. coli* transformed with this plasmid could not convert dAMP into dATP, *pyk* gene cannot be translated in this recombinant. The different translation levels of *pyk* with gene location switching caused mainly by the different secondary structures formed by the 5'-untranslation regions and the gene sequence of its5'-terminal. The dATP product *E. coli* strain could be constructed when cloned *pyk* gene at an optimum location.

KEYWORDS
pyk Gene Location; dATP Conversion Strain; 5-Untranslation Regions

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