

## The synthesis of GDP-4-keto-6-deoxy mannose from mannose and GMP

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### ABSTRACT

An enzymatic one-pot synthesis method<sup>1)</sup> for GDP-D-mannose was previously developed in our lab, starting from GMP, acetylphosphate and fructose-6-phosphate in recombinant *Escherichia coli* BL21 strains. Five enzymes, i.e. GMP kinase, acetate kinase, Phosphomanno isomerase, Phosphomannomutase<sup>2)</sup> and mannose-1-phosphate guanosyltransferase<sup>3),4),5),6)</sup> were expressed in the *E. coli* BL21 strain. Now we modified these system with hexose kinase which use mannose, much cheaper material than fructose-6-phosphate. With these system, we can produce GDP-D-mannose by one-pot reaction. and using 4,6 dehydratase from *Escherichia coli* K12, we can produce GDP-4-keto-6-deoxy mannose<sup>7),8),9)</sup>.

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