

Production of 5-aminovaleate and glutarate as C5 platform chemicals through metabolically engineered *Escherichia coli*

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5-Aminovaleate (5AVA) is a C5 platform chemical and a precursor for nylon 5. *Escherichia coli* was metabolically engineered for the production of 5AVA and glutarate. When *Pseudomonas putida davAB* genes were introduced into recombinant *E. coli*, 0.5 g/L of 5AVA were produced from glucose by fed-batch culture. When recombinant *E. coli* expressing the *davAB* and *gabTD* genes was cultured in a medium containing 20 g/L glucose, 10 g/L l-lysine and 10 g/L α -ketoglutarate, 1.7 g/L of glutarate was produced. This work was supported by the Technology Development Program to Solve Climate Changes on Systems Metabolic Engineering for Biorefineries from the Ministry of Education, Science, and Technology (MEST) through the National Research Foundation of Korea (NRF-2012-C1AAA001-2012M1A2A2026556). Further support from the Priority Research Centers Program through the National Research Foundation of Korea (NRF) funded by the MEST (2012-0006693) and the R&D Program of MKE/KEIT (10033199 and 10033386) is appreciated.