

Metabolic Engineering of *Corynebacterium glutamicum* for Enhanced Production of 5-aminovaleric acid

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5-Aminovaleric acid (5AVA) is an important five-carbon platform chemical especially for synthesis of polymers and other industrially valuable chemicals. Employment of lysine 2-monooxygenase encoded by the *davB* gene and 5-aminovaleramidase encoded by the *davA* gene has been successful for enzymatic conversion of L-lysine to 5AVA. In addition, a recombinant *Escherichia coli* strain expressing the *davB* and *davA* genes was developed for the bioconversion of L-lysine to 5AVA. *Corynebacterium glutamicum*, an efficient L-lysine producing microorganism, is a highly promising platform to develop of direct fermentative production of 5AVA using L-lysine as a precursor for 5AVA. In this report, metabolic engineering was done in *C. glutamicum* to enhance the fermentative production of 5AVA from glucose. This work was supported by the Technology Development Program to solve climate changes (Systems Metabolic Engineering for Biorefineries) (NRF-2012M1A2A2026556 and NRF-2012M1A2A2026557) from the Ministry of Science, ICT through the National Research Foundation (NRF) of Korea and NRF grant funded by the MSIP (NRF-2016R1A2B4008707).