Metabolic engineering of *Corynebacterium glutamicum* to overproduce L-ornithine

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L-Ornithine is a non-essential amino acid with various applications in food industry. We aim at high-titer production of L-ornithine by *Corynebacterium glutamicum* ATCC 13032 through metabolic engineering. In addition to deletions of *proB* and *argF*, the *argR* gene encoding the regulatory repressor of L-arginine operon was also deleted to enhance the ornithine flux. Furthermore, plasmid-based overexpression of *argCJBD* genes, changing the start codons of *pgi* and *zwf* and replacing the native promoter of the *tkt* operon with the strong *sod* promoter resulted in a titer of 51.5 g/L of L-ornithine with productivity of 1.29 g/L/h under fed-batch conditions. [This work was supported by the Technology Development Program to Solve Climate Changes on Systems Metabolic Engineering for Biorefineries from the Ministry of Science, ICT and Future Planning (MSIP) through the National Research Foundation (NRF) of Korea (NRF-2012-C1AAA001-2012M1A2A2026556).]