

Metabolic Engineering of *Escherichia coli* for the Production of 1,5-diaminopentane

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1,5-diaminopentane, also known as cadaverine, is an important platform chemical having many applications in chemical industry. Bio-based production of 1,5-diaminopentane from renewable feedstock is a promising and sustainable alternative to the petroleum-based chemical synthesis. Here, we report development of a metabolically engineered strain of *Escherichia coli* that overproduces 1,5-diaminopentane in glucose mineral salts medium. The final engineered strain was able to produce 9.61 g /L of 1,5-diaminopentane with a productivity of 0.32 g/ L/ h by fed-batch cultivation. The strategy reported here should be useful for the bio-based production of 1,5-diaminopentane from renewable resources. [This work was supported by the Korean Systems Biology Research Project (20110002149) of the Ministry of Education, Science and Technology (MEST) through the National Research Foundation of Korea. Further support by the World Class University Program (R32-2008-000-10142-0) through the National Research Foundation of Korea funded by the MEST is appreciated.]