

Enhanced succinic acid under acidic condition by introduction of acid resistance system from *E. coli*

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Escherichia coli naturally have sophisticated acid resistance (AR) systems to survive in acidic environment and this system has been well-studied. Here, two AR systems, glutamine- and glutamate-mediate system, from *E. coli* were introduced into *Mannheimia succiniciproducens*, a rumen bacterium known to naturally produce high amount of succinic acid (SA), for efficient SA production under acid condition. This work will provide useful information to improve strain growth and metabolic capability under acidic condition. Furthermore, reduction in buffering agent and simpler downstream process will lead to more economical SA production. [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-2012M1A2A2026556 and NRF-2012M1A2A2026557).]