

## Enhanced production of medium-chain-length polyhydroxyalkanoates in *fadB* mutant *Escherichia coli* strain by amplification of FadB homologous enzymes

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Medium-chain-length (MCL)-polyhydroxyalkanoate (PHA) biosynthesis pathway has been established in recombinant *Escherichia coli* by transferring the PHA synthase gene possessing substrate specificity for MCL monomer units. In order to make *E. coli* equipped with the capability of MCL-monomer generation, (-oxidation pathway has been manipulated by the disruption of multienzyme complex such as FadB and FadA.<sup>1)</sup>

Recently, YfcX, which is homologous to FadB, was reported to be responsible for the supplying MCL-(R)-3-hydroxyacyl-CoAs (R3HA-CoAs) from fatty acid in *fadB* mutant *E. coli* strain.<sup>2)</sup>

In this study, we report that several FadB homologous enzymes are involved in the generation of R3HA-CoAs in *fadB* mutant *E. coli* strain and can be employed for the enhanced biosynthesis of MCL-PHA. Detailed results will be reported.

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### References

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2. Snell et al. (2002), *J. Bacteriol.* **184**, 5696-5705.