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Authors: Jingjing Liu, Zhipeng Xie, Hyun-dong Shin, Jianghua Li, Guocheng Du, Jian Chen, Long Liu



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**Rewiring the reductive tricarboxylic acid pathway and L-malate transport pathway of *Aspergillus oryzae* for overproduction of L-malate**

Jingjing Liu<sup>1,2</sup>, Zhipeng Xie<sup>3</sup>, Hyun-dong Shin<sup>4</sup>, Jianghua Li<sup>2,\*</sup>, Guocheng Du<sup>2</sup>, Jian Chen<sup>2</sup>, Long Liu<sup>1,\*</sup>

<sup>1</sup>Key Laboratory of Carbohydrate Chemistry and Biotechnology, Ministry of Education, Jiangnan University, Wuxi 214122, China

<sup>2</sup>Key Laboratory of Industrial Biotechnology, Ministry of Education, Jiangnan University, Wuxi 214122, China

<sup>3</sup>Hangzhou Bioking Biochemical Engineering Co., Ltd, Hangzhou 311106, China

<sup>4</sup>School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA 30332, USA

\*Corresponding authors:

Jianghua Li, Tel: +86-510-85329031, Fax: +86-510-85918309, E-mail: lijiahua@jiangnan.edu.cn

Long Liu, Tel: +86-510-85918312, Fax: +86-510-85918309, E-mail: longliu@jiangnan.edu.cn

### Highlights

- Overexpression of native pyruvate carboxylase and malate dehydrogenase in the rTCA pathway.
- Construction of oxaloacetate anaplerotic reaction.
- Overexpression of a C4-dicarboxylate transporter gene from *A. oryzae* and an L-malate permease gene from *Schizosaccharomyces pombe*
- Overexpression of the 6-phosphofructokinase which was identified as a potential limiting step for L-malate synthesis.

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