


CORRECTION

Open Access



Correction to: Enhancement of the catalytic activity of Isopentenyl diphosphate isomerase (IDI) from *Saccharomyces cerevisiae* through random and site-directed mutagenesis

Hailin Chen^{1,2} , Meijie Li¹, Changqing Liu¹, Haibo Zhang^{1*}, Mo Xian^{1*} and Huizhou Liu¹

Correction to: *Microb Cell Fact* (2018) 17:65

<https://doi.org/10.1186/s12934-018-0913-z>

The authors of this article [1] wish to draw the readers' attention to their closely related paper, published in *RSC Advances* [2] which should have been cited in this article. The authors regret that there is unattributed overlap in text describing the construction of the plasmid coding for the biosynthetic pathway because of the commonly used research strategies between this article [1] and similar work presented in *RSC Advances*, although this does not affect the main scientific conclusion in this study.

The authors confirm that new data has been reported in this *RSC Advances* article. The two papers reported different key enzymes in the lycopene synthetic pathway to improve lycopene production. The MCF article used a directed evolution method to improve enzyme activity, half-life and substrate affinity of Isopentenyl diphosphate isomerase (IDI). Meanwhile, the *RSC Advances* article used the same method to improve the activity of mevalonate kinase to remove certain inhibition of lycopene biosynthesis intermediates. The catalytic mechanisms of both enzymes are different.

It should also be noted that data points were selected from raw data for presentation in Figure 2. The authors limited to show 20 colonies from each library of random and saturation mutagenesis based on the lycopene production (OD_{475}). 20 isolated strains with the highest lycopene production were selected. Some strains with the similar lycopene production of the control were artificially abandoned, while strains in which the lycopene synthesis function were completely inactivated were not shown.

Author details

¹ CAS Key Laboratory of Bio-based Materials, Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences, No. 189 Songling Road, Qingdao 266101, People's Republic of China. ² Sino-Danish College, University of Chinese Academy of Sciences, No. 19(A) Yuquan Road, Beijing 100049, People's Republic of China.

Published online: 13 January 2020

References

1. Chen H, Li M, Liu C, Zhang H, Xian M, Liu H. Enhancement of the catalytic activity of Isopentenyl diphosphate isomerase (IDI) from *Saccharomyces cerevisiae* through random and site-directed mutagenesis. *Microb Cell Fact*. 2018;17:65.
2. Chen H, Liu C, Li M, Zhang H, Xian M, Liu H. Directed evolution of mevalonate kinase in *Escherichia coli* by random mutagenesis for improved lycopene. *RSC Adv*. 2018;8:150.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

The original article can be found online at <https://doi.org/10.1186/s12934-018-0913-z>.

*Correspondence: zhanghb@qibebt.ac.cn; xianmo@qibebt.ac.cn

¹ CAS Key Laboratory of Bio-based Materials, Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences, No. 189 Songling Road, Qingdao 266101, People's Republic of China
Full list of author information is available at the end of the article



© The Author(s) 2020. This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.