bio-protocol

Published: Jun 5, 2021

Update Notice: Lipid-exchange Rate Assay for Lipid Droplet Fusion in Live Cells

Jia Wang[1], Boon Tin Chua[2], Peng Li[1] and Feng-Jung Chen[2, 3, 4, *]

[1]State Key Laboratory of Membrane Biology and Tsinghua-Peking Center for Life Sciences, Beijing Advanced Innovation Center for Structural Biology, School of Life Sciences, Tsinghua University, Beijing 100084, China
[2]Institute of Metabolism and Integrative Biology, Fudan University, Shanghai 200438, China
[3]Human Phenome Institute, Fudan University, Shanghai 201203, China
[4]Zhongshan Hospital, Fudan University, Shanghai, 200032, China
*For correspondence: derrick_chen@fudan.edu.cn

Since publication of our protocol in Bio-protocol (https://bio-protocol.org/e3309), the article Somwar et al. (2011), "Live-cell imaging demonstrates rapid cargo exchange between lipid droplets in adipocytes", came to our attention. Because it is useful for this protocol, we have updated the Background section of the original protocol to include the citation.

Background

…LDs are dynamic organelles which budded from the endoplasmic reticulum (ER) (Gross et al., 2011; Choudhary et al., 2015) and continue to grow via triglyceride synthesis and lipid transfer from the ER (Fujimoto et al., 2007; Wilfling et al., 2013; Xu et al., 2018) or LD fusion (Gong et al., 2011; **Somwar et al., 2011**). LD-associated cell death–inducing DNA fragmentation factor alpha-like effector (CIDE) family proteins including CIDEA, CIDEB, and CIDEC/Fsp27 (Gao et al., 2017) are crucial regulators in the lipid homeostasis by governing atypical LD fusion and growth for lipid storage. Previously, we reported that CIDEC mediates LD fusion through directional lipid transfer from small (donor) to large (acceptor) LDs (Gong et al., 2011; **Somwar et al., 2011**).

References

17. Somwar, R., Roberts Jr., C. T. and Varlamov, O. (2011). Live-cell imaging demonstrates rapid cargo exchange between lipid droplets in adipocytes. *FEBS Lett* 585(12):1946-1950

Cite as: Wang, J., Chua, B. T., Li, P. and Chen, F. (2021). Update Notice: Lipid-exchange Rate Assay for Lipid Droplet Fusion in Live Cells . Bio-protocol 11(11): e4090. DOI: 10.21769/BioProtoc.4090.