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Dr. Indrani Mukherjee 8/2/2018

Science Editor

*JoVE*

Dear Dr. Mukherjee:

We are pleased to submit the revised version of an original methods article entitled “LDL Cholesterol Uptake Assay Using Live Cell Imaging Analysis with Cell Health Monitoring” for your consideration for publication in JoVE. Our improved LDL uptake assay using live cell imaging provides a sensitive platform to serially quantify LDL uptake at different time points in various human cell lines. Concurrently with LDL uptake measurements, this technique allows for monitoring of the cell health and growth in real time; therefore, it could be a useful tool for monitoring potential cytotoxicity in studies screening for compounds regulating cholesterol metabolism. We have validated our method in three relevant cell lines including human hepatic carcinoma (HepG2) cells, human renal epithelial (HK2) cells, and human coronary artery endothelial cells (HCAECs), suggesting the broad applicability of the technique. Moreover, our findings support the validity and sensitivity of the LDL uptake quantifications as confirmed by the use of well-known LDL uptake inhibitors, Dynasore and PCSK9, as well as the LDL updake stimulator Simvastatin.

We believe this manuscript will be of useful impact to the field of cholesterol metabolism, and therefore is appropriate for publication in the JoVE. This manuscript has not been published and is not under consideration for publication elsewhere. We have no conflicts of interest to disclose.

Thank you for your consideration!

Sincerely,

**Lina Shehadeh, Ph.D., FAHA**

Assistant Professor of Medicine

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