

Dear Stephanie,

Enclosed is our manuscript entitled “Isolation and culture of human mature adipocytes using Membrane mature Adipocyte Aggregate Cultures (MAAC)”, which we would like considered for publication in *JoVE* as a video article. We were invited to submit a manuscript based on the new adipocyte culture method that we developed and recently published at Cell Reports, work describing that “Mature Human White Adipocytes Cultured under Membranes Maintain Identity, Function, and Can Transdifferentiate into Brown-like Adipocytes”. Compared to existing adipocyte in vitro models, this new method has improved translational relevance and this is, to the best of our knowledge, the first example of successful long-term culture of mature adipocytes. We show that mature human white adipocytes can be kept in culture for at least 2 weeks and maintain normal gene expression profile and function. We have also been able to show that mature human subcutaneous adipocytes have the capacity to transdifferentiate into brown-like fat cells, thus providing evidence that this culture method can be used for the investigation of adipocyte phenotypic changes, and the identification of drugs modulating mature adipocyte function.

We believe that this new adipocyte culture method would be well suited to be described in a video format, that would help increase visibility and reproducibility of research. Thank you for considering our manuscript, and we look forward to hearing your thoughts about its suitability for publication at *JoVE*.

Best regards,
Jeremie Boucher, PhD

Principal Scientist – Associate Director
AstraZeneca R&D Gothenburg, Sweden
IMED CVRM | Diabetes Bioscience
jeremie.boucher@astrazeneca.com

Adjunct Senior Lecturer
Wallenberg Center for Molecular and Translational Medicine, Gothenburg University
jeremie.boucher@gu.se