Investigating metabolic disease in human induced pluripotent stem cells : apidocyte size, insulin signaling and hepatic lipids

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Stellingen behorend bij het proefschrift getiteld:

Investigating metabolic disease in human induced pluripotent stem cells: adipocyte size, insulin signaling and hepatic lipids

1. Adipocyte homeostasis is a delicate balance between atrophy and hypertrophy, both leading to metabolic complications and disease. (this thesis)

2. Cardiovascular disease can be modeled and mechanistically investigated in a dish in the relevant human cell type. (this thesis)

3. Inflammation and adipocyte size are correlated and feedback on each other. (this thesis)

4. Genome-wide association studies are now possible *in vitro* with iPSCs. (this thesis)

5. Maintaining healthy insulin signaling is paramount in optimizing duration and quality of life. (this thesis)

6. While hepatocytes and adipocytes are excellent *in vitro* models for lipid and glucose metabolism, more research is warranted to prove the safety and efficacy of these cells in regenerative therapy or clinical studies.

7. Adipocytes are the true culprit of any metabolic disease. Healthy adipocyte, healthy life.

8. The excessive research on adipocyte browning/beigeing will not solve the obesity epidemic, instead the aim should be to maintain a metabolically healthy white adipocyte.

9. Metabolic and cardiovascular disease can be prevented by a healthy lifestyle and early therapeutic intervention in insulin resistance.

10. No iPSC-derived organ will ever perfectly model human disease unless we make iPSC-derived humans.

11. iPSC-based regenerative therapy will fail unless a solution is found for immune rejection.

12. Biology is 70% hard work and grind, 20% luck, and 10% doing the right experiment.