hiPSC-derived 3D cardiac microtissue models with integrated immune cells and vasculature

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Stellingen behorende bij het proefschrift getiteld "hiPSC-derived 3D cardiac microtissue models with integrated immune cells and vasculature"

1. "Physiological differences between the in-bred laboratory mouse and humans restrict the applicability of mouse studies to human relevance." Janssen et al., 2016 Circulation Research

2. "Microfluidic models enhanced our understanding of how microvascular networks form and respond to external cues and combining these models with prevascularization methods is one promising strategy toward engineering of functional tissues." K. Haase and R. Kamm, 2017 Regenerative Medicine

3. "Cardiomyocyte-vascular signaling plays a critical role in the vascular adaptations in health and disease and a failure of the vasculature growth to match the myocyte growth can lead to progressive cardiac dysfunction." Tirziu et al., 2010 Circulation

4. "The human and mouse heart contain distinct macrophage subsets and this heterogeneity is functionally important." Bajpai et al 2018 Nature Medicine.

5. "Understanding cardiac resident macrophage involvement in maintaining the balance between pro- and anti- inflammatory response is critical to harness their regenerative capacity and has potential for future therapeutic approaches to cardiac injury." This thesis

6. "Our vascularized cardiac MT model provides a foundation for studies on organ-specific cellular communication, specifically for the endothelial barrier, drug screening and disease modelling." This thesis

7. "Inter- line, batch and even well variability remains a challenge in 3D tissue cultures." This thesis

8. "Nevertheless, as they are, 3D microphysiological systems might be able to help bridge the gap between preclinical and clinical research." This thesis

9. "Good science requires patience, experimentation and optimization in the pursuit of scientific facts." Dr. Jonas Salk (1914-1995, developed polio vaccine).

10. “Strength does not come from physical capacity. It comes from an indomitable will.” Mahatma Gandhi, (1869-1948). True strength lies in intrinsic motivation, driving us forward even in the fiercest storms.

11. “Carry out a random act of kindness, with no expectation of reward, safe in the knowledge that one day someone might do the same for you.” Princess Diana (1961, 1997). Being kind to others is not just a choice, it's a reflection of our character. No matter who we are, if we lack kindness, all else becomes insignificant.