Single-cell immune profiling of atherosclerosis: from omics to therapeutics

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Stellingen behorende bij het proefschrift

Single-cell immune profiling of atherosclerosis
from omics to therapeutics

1. The application of single-cell multi-omics in atherosclerosis research is a powerful tool to accelerate the translation of fundamental discoveries towards novel drug targets for intervention. *(This thesis)*

2. Atherosclerosis has an autoimmune component driven by autoreactive $CD4^+$ T cells. *(This thesis)*

3. Targeting mast cell recruitment towards the plaque is a promising therapeutic strategy to prevent atherosclerosis progression. *(This thesis)*

4. Aging affects mast cell phenotype and should therefore be considered as a parameter for future research into mast-cell targeted interventions against atherosclerosis. *(This thesis)*

5. The successful identification of novel drug targets from single-cell multi-omics data will not only depend on the amount of data publicly available, but also on our ability to convert these into meaningful hypotheses and experiments. *(Zhao et al. Nat Cardiovasc Res. 2, 97-99 (2023))*

6. Manual cell annotation of single-cell RNA sequencing data will always be required in addition to computational annotation models. *(Heumos et al. Nat Rev Genet. 24, 550–572 (2023)*

7. The expansion of plaque-enriched antigen-specific $CD4^+$ T cells proves the potential of tolerogenic vaccination as therapeutic strategy for atherosclerosis. *(Edsfeldt et al. Nat Cardiovasc Res. 2, 227–229 (2023))*

8. Spatial transcriptomics and proteomics will advance the field by their capacity to define crucial atherosclerosis-driving intercellular communication routes by providing both geolocation and a detailed description of cellular communities in the plaque. *(De Winther et al. Eur Heart J. 44(14), 1216-1230 (2023))*

9. Altijd een beetje chaos is ook een vorm van structuur.

10. Het einddoel bereiken is een hele opgave voor iemand met gebrek aan richtingsgevoel.

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