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The effects of triglycerides and fatty acids on T cells: role in atherosclerosis

Nathalie Reilly

1. Fatty acids of different saturation have distinct effects on T cell function which is relevant for understanding the mechanisms underlying inflammatory diseases, including atherosclerosis **(this thesis)**.
2. Research should place greater emphasis on studying T cells in their non-activated state to better understand the predisposition towards pro- or anti-inflammatory roles upon activation in disease sites **(this thesis)**.
3. RNA sequencing generates detailed gene expression profiles even in non-activated T cells, revealing the molecular mechanisms that drive T cell behavior in diseases **(this thesis)**.
4. Utilizing naturally occurring diseases such as hypertriglyceridemia as *in vivo* models of natural triglyceride exposure advance our understanding of T cell behavior in a pathophysiological context **(this thesis)**.
5. Lipid environments influence immunometabolic processes and direct T cell fate determination **(Endo, et al. Cell Rep. 2015)**.
6. EPA (eicosapentaenoic acid) holds great promise as a future therapeutic agent for cardiovascular disease **(Bhatt, et al. N Engl J Med. 2019 and Bhatt, et al. J Am Coll Cardiol. 2019)**.
7. Integrating the role of epigenetic modifications into T cell function, in part, due to changes in cellular metabolisms will be essential for developing a more comprehensive understanding of how these cells behave and respond to triglycerides and fatty acids **(Soriano-Baguet and Brenner, Trends Immunol. 2023)**.
8. Enhancing our understanding of human atherosclerosis biology relies on bridging the gap from basic *in vitro* research to *in vivo* human models by combining “wet lab” and -omics techniques to understanding disease burden and risk **(this thesis and Gleissner, Atherosclerosis, 2015)**.
9. Embracing open science practices and fostering transparency in research are crucial for advancing knowledge and solving global challenges, as collaborative efforts and shared insights drive collective progress and innovation.
10. Using social media effectively makes science easier to understand, increases research reach, and boosts public engagement and impact.
11. “Wherever you go, no matter what the weather, always bring your own sunshine.” — Anthony J. D’Angelo *Positivity fosters resilience, allowing us to face challenges with greater ease.*