



Universiteit
Leiden
The Netherlands

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

Reilly, N.A.

Citation

Reilly, N. A. (2024, October 30). *The effects of triglycerides and fatty acids on T cells: role in atherosclerosis*. Retrieved from <https://hdl.handle.net/1887/4106896>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/4106896>

Note: To cite this publication please use the final published version (if applicable).

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

Nathalie Reilly

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

N. A. Reilly, MSc.

ISBN: 978-94-93391-54-3

@2024 Nathalie Reilly

Copyrights of each chapter is with the publisher of the journal in which the work has appeared. No part of this thesis may be reproduced, stored in retrieval system or transmitted in any form by any means, without the permission of the author, or when appropriate, of the publisher of the represented published articles.

The research described in this thesis was supported by the Dutch CardioVascular Alliance (The Dutch Heart Foundation, Dutch Federation of University Medical Centres, the Netherlands Organization for Health Research and Development, and the Royal Netherlands Academy of Sciences) for the GENIUSII project Generating the Best Evidence-Based Pharmaceutical Targets for Atherosclerosis (CVON2011-19 and CVON2017-20).

Financial support by the Dutch Heart Foundation for the publication of this thesis is gratefully acknowledged.

Cover Design: Extended License purchased from stock.adobe.com and adapted from ©MIMOSA - stock.adobe.com by Nathalie Reilly

Printed by Proefschriftspecialist | proefschriftspecialist.nl

Layout and design: Hans Schaapherder, persoonlijkproefschrift.nl

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

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr.ir H. Bijl,
volgens besluit van het college voor promoties
te verdedigen op woensdag 30 oktober 2024
klokke 14:30 uur

door
Nathalie Amara Reilly
geboren te Amsterdam
in 1992

Promotors: Prof. dr. B. T. Heijmans
Prof. dr. J. W. Jukema

Promotion Commission: Prof. dr. P. C. N. Rensen
Prof. dr. P. E. Slagboom
Prof. dr. I. Bot, *Leiden Academic Centre for Drug Research (LACDR)*
Dr. J. Van den Bossche, *Amsterdam University Medical Center,*
location VUMC

Contents

Chapter 1	Introduction	7
Chapter 2	Effects of fatty acids on T cell function: role in atherosclerosis	21
Chapter 3	Oleic acid triggers metabolic rewiring of T cells poising them for T helper 9 differentiation	59
Chapter 4	EPA induces anti-inflammatory transcriptomics in T cells, implicating a triglyceride-independent pathway for cardiovascular risk reduction	127
Chapter 5	Insights into the role of triglycerides and T cells in cardiovascular risk: T cells of patients with moderate hypertriglyceridemia have a pro-inflammatory transcriptomic profile	187
Chapter 6	Summary and general discussion	221
Chapter 7	Appendix	241
	- Summary	242
	- Nederlandse samenvatting	246
	- List of publications	250
	- Curriculum Vitae	251
	- Acknowledgements	253

