



Universiteit
Leiden

The Netherlands

Metabolism and lipid mediators as regulators of innate immune cell function: implications for inflammation and immune responses

Almeida, L.

Citation

Almeida, L. (2026, June 23). *Metabolism and lipid mediators as regulators of innate immune cell function: implications for inflammation and immune responses*. Retrieved from <https://hdl.handle.net/1887/4306933>

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/1887/4306933>

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

Metabolism and Lipid Mediators as Regulators of
Innate Immune Cell Function

Implications for Inflammation and Immune Responses

Luís Pedro Ferreira de Almeida

ISBN: 978-90-90423-86-9

Cover design: Luís Almeida

Layout: Luís Almeida

Printing: ProefschriftMaken

The work described in this thesis was performed at the Leiden University Centre for Infectious Diseases, at the Leiden University Medical Centre, Leiden, The Netherlands. This work was supported by funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie Grant agreement No. 812890.

Copyright © 2026 Luís Almeida. All rights reserved.

No part of this publication may be reproduced, stored in retrieval system, or transmitted in any form or by any means, electronic, mechanical, by photocopying, recording, or otherwise, without the prior written permission of the author.

Metabolism and Lipid Mediators as Regulators of
Innate Immune Cell Function

Implications for Inflammation and Immune Responses

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr. S. de Rijcke,
volgens besluit van het college voor promoties
te verdedigen op dinsdag 23 juni 2026
klokke 13:00 uur

door

Luís Pedro Ferreira de Almeida
geboren te Lissabon, Portugal
in 1996

Promotors:

Dr. B. Everts

Prof. dr. M. Yazdanbakhsh

Leden promotiecommissie:

Prof. dr. M.A. Giera

Prof. dr. C. Goodyear (University of Glasgow)

Prof. dr. C.R. Berkers (Utrecht University)

Dr. J. den Dunnen (Amsterdam UMC)

Table of Contents

Chapter I	General Introduction	7
Chapter II	Fa(c)t Checking: How Fatty Acids Shape Metabolism and Function of Macrophages and Dendritic Cells	19
Chapter III	Hyperinflammation by Human Macrophages Induced by SARS-CoV-2 Anti-Spike IgG Is Dependent on Glucose and Fatty Acid Metabolism	47
Chapter IV	IgA2 ACPA Drives a Hyper-Inflammatory Phenotype in Macrophages via ATP Synthase and COX2	83
Chapter V	High-Mannose Glycans From <i>Schistosoma mansoni</i> Eggs Are Important for Priming of Th2 Responses via Dectin-2 and Prostaglandin E ₂	111
Chapter VI	General Discussion	137

	Appendix	153
	English Summary	154
	Nederlandse Samenvatting	161
	Resumo em Português	169
	Curriculum Vitae	177
	Portfolio	178
	List of Publications	179
	Acknowledgements	180