



Universiteit
Leiden
The Netherlands

Interventions targeting hepatic and cardiovascular complications of metabolic syndrome

Inia, J.A.

Citation

Inia, J. A. (2026, April 23). *Interventions targeting hepatic and cardiovascular complications of metabolic syndrome*. Retrieved from <https://hdl.handle.net/1887/4302628>

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/1887/4302628>

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

Interventions targeting hepatic and cardiovascular complications of metabolic syndrome

José Inia

Financial support

The printing of this thesis was kindly supported by NewAmsterdam Pharma, Stichting Proefdierkundige Informatie, the Daan Traas fonds of TNO and Leiden University.

ISBN

978-94-93539-11-2

Cover, lay-out and print

Promotie In Zicht | www.promotie-inzicht.nl

© José Inia, 2026

All rights are reserved. No part of this book may be reproduced, distributed, stored in a retrieval system, or transmitted in any form or by any means, without prior written permission of the author.

Interventions targeting hepatic and cardiovascular complications of metabolic syndrome

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 donderdag 23 april 2026
klokke 13:00 uur

door

José Adriana Inia
geboren te Britsum
in 1997

Promotor

Prof. Dr. J.W. Jukema

Copromotoren

Dr. A.M. van den Hoek (TNO, Leiden, the Netherlands)

Dr. G. Stokman (TNO, Leiden, the Netherlands)

Manuscriptcommissie

Prof. Dr. P.C.N. Rensen

Prof. Dr. J.A.P. Willems van Dijk

Prof. Dr. I. Bot (LACDR, Leiden University, Leiden, the Netherlands)

Dr. S. de Jager (UMCU, Utrecht, the Netherlands)

Dr. H.M.G. Princen (TNO, Leiden, the Netherlands)

Contents

Chapter 1	General introduction	7
Chapter 2	Effects of repeated weight cycling on non-alcoholic steatohepatitis in diet-induced obese mice	27
Chapter 3	Fibrogenic gene signature as early prediction for the efficacy of pharmacological interventions for MASH-associated fibrosis	53
Chapter 4	Therapeutic effects of FGF21 mimetic bFKBI on MASH and atherosclerosis in Ldlr ^{-/-} .Leiden mice	75
Chapter 5	Semaglutide has beneficial effects on non-alcoholic steatohepatitis in Ldlr ^{-/-} .Leiden mice	107
Chapter 6	Semaglutide and exercise synergy in obesity: preserving muscle mass and uncovering organ crosstalk	137
Chapter 7	Atorvastatin attenuates diet-induced non-alcoholic steatohepatitis in APOE*3-Leiden mice by reducing hepatic inflammation	171
Chapter 8	Efficacy of a novel PCSK9 inhibitory peptide alone and with evinacumab in a mouse model of atherosclerosis	199
Chapter 9	Obicetrapib alone and in combination with ezetimibe enhances LDL receptor-mediated VLDL-clearance and regresses atherosclerosis on atorvastatin background	227
Chapter 10	General discussion	259
Appendices	Summary	275
	Samenvatting	279
	Author affiliations	283
	List of publications	285
	Curriculum vitae	287
	Dankwoord	289