



Universiteit
Leiden
The Netherlands

Tolerance and immune regulation in rheumatoid arthritis

Dekkers, J.S.

Citation

Dekkers, J. S. (2019, October 1). *Tolerance and immune regulation in rheumatoid arthritis*. Retrieved from <https://hdl.handle.net/1887/78949>

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/1887/78949>

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

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/78949> holds various files of this Leiden University dissertation.

Author: Dekkers, J.S.

Title: Tolerance and immune regulation in rheumatoid arthritis

Issue Date: 2019-10-01

Tolerance and Immune Regulation in Rheumatoid Arthritis

Jacqueline Stephanie Dekkers

The studies described in this thesis were performed at the Department of Rheumatology at the Leiden University Medical Centre, Leiden, the Netherlands

ISBN: 978-94-028-1644-0

The printing of this thesis was financially supported by: Universiteitsbibliotheek Leiden, Chip Soft, UCB and Pfizer.

Cover design: "*At the mirror*", oil on linen by Misha Sydorenko, 2016. In private collection.

Copyright © Jacqueline S. Dekkers 2019

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

Tolerance and Immune Regulation in Rheumatoid Arthritis

Proefschrift

Ter verkrijging van de graad Doctor aan de Universiteit Leiden,

op gezag van Rector Magnificus prof.mr.C.J.J.M. Stolker,

volgens besluit van het College voor promoties

te verdedigen op dinsdag 1 oktober 2019

Klokke 15:00 uur

door

Jacqueline Stephanie Dekkers

Geboren te Rotterdam

in 1989

Promotores

Prof.dr. R.E.M. Toes

Prof.dr. T.W.J. Huizinga

Copromotor

Dr. D. van der Woude

Promotiecommissie

Prof.dr. G. Kloppenburg

Prof.dr. F.A. Ossendorp

Dr. E. Lubberts, Erasmus MC, Rotterdam

Dr. S.W. Tas, Amsterdam UMC, Amsterdam

Content

Chapter 1	Introduction and outline	9
------------------	--------------------------	---

PART I. ROLE OF PROTEIN MODIFICATIONS ON AUTOIMMUNITY

Chapter 2	The role of anticitrullinated protein antibodies in the early stages of rheumatoid arthritis. <i>Current Opinion in Rheumatology 2016 May;(3):275-81.</i>	27
Chapter 3	Breach of autoreactive B-cell tolerance by post-translationally modified foreign proteins. <i>Annals of the Rheumatic Diseases. 2017 Aug;76(8):1449-1457</i>	43
Chapter 4	Carbamylation of self-antigens facilitates a breach in T-cell tolerance	77
Chapter 5	Different classes of Anti-Modified Protein Antibodies are induced upon exposure to antigens expressing one type of modification. <i>Annals of the Rheumatic Diseases. 2019 Jul;78(7):908-916</i>	91

PART II. AUTOIMMUNITY IN EARLY DISEASE

Chapter 6	Autoantibody status is not associated with early treatment response to first-line methotrexate in patients with early rheumatoid arthritis <i>Rheumatology (Oxford). 2019 Jan 1;58(1):149-153.</i>	121
Chapter 7	Possibilities for preventive treatment in rheumatoid arthritis? Lessons from experimental animal models of arthritis: a systematic literature review and meta-analysis. <i>Annals of the Rheumatic Diseases. 2017 Feb;76(2):458-467.</i>	139
Chapter 8	Periodontal infection and induction of autoimmunity in rheumatoid arthritis: <i>Aggregatibacter actinomycetem comitans</i> -induced hypercitrullination <i>Science Translational Medicine 2018 Mar 21;10(433).</i>	173
Chapter 9	Discussion and general summary	181

Chapter 10	Nederlandse samenvatting	193
Appendices	List of publications	201
	Curriculum Vitae	203
	Dankwoord	205