



Universiteit
Leiden
The Netherlands

Heterologous immunity in organ transplantation

Heuvel, H. van den

Citation

Heuvel, H. van den. (2019, April 25). *Heterologous immunity in organ transplantation*. Retrieved from <https://hdl.handle.net/1887/71941>

Version: Not Applicable (or Unknown)

License: [Leiden University Non-exclusive license](#)

Downloaded from: <https://hdl.handle.net/1887/71941>

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

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/71941> holds various files of this Leiden University dissertation.

Author: Heuvel, H. van den

Title: Heterologous immunity in organ transplantation

Issue Date: 2019-04-25

Heterologous immunity in organ transplantation

Heleen van den Heuvel

Colophon

Heleen van den Heuvel

Heterologous immunity in organ transplantation

ISBN: 978-94-6375-333-3

The research described in this thesis was performed at the department of Immunohematology and Blood Transfusion at the Leiden University Medical Center, the Netherlands.

Financial support for the publication of this thesis was kindly provided by: The Dutch Kidney Foundation, de Nederlandse Transplantatie Vereniging, Pfizer B.V. and U-CyTech Biosciences.

Copyright © 2019 H. van den Heuvel

All rights reserved. No part of this thesis may be reproduced or transmitted in any form, by any means, electronic or mechanical, without prior written permission of the author, or where appropriate, of the publisher of the articles.

Cover design and layout and by Eduard Boxem, persoonlijkproefschrift.nl.

Cover images from Shutterstock.com

Printed by Ridderprint BV | www.ridderprint.nl

Heterologous immunity in organ transplantation

Proefschrift

ter verkrijging van

de graad van 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 donderdag 25 april 2019

klokke 15.00 uur

door

Heleen van den Heuvel

geboren te Amsterdam

in 1986

Il y a plus de philosophie dans une bouteille de vin que dans tous les livres - Louis Pasteur (1822-1895)

Promotor

Prof. dr. F.H.J. Claas

Leden promotiecommissie

Prof. dr. C. Van Kooten

Prof. dr. C.C. Baan (Erasmus MC)

Prof. dr. K. Fleischhauer (Universitätsklinikum Essen)

Dr. N.A. Mifsud (Monash University)

TABLE OF CONTENTS

Chapter 1	General introduction	9
Chapter 2	T-cell alloreactivity and transplantation outcome - a budding role for heterologous immunity? <i>Curr Opin Organ Transplant 2015 Aug;20(4):454-60</i>	33
Chapter 3	Detection of virus-specific CD8 ⁺ T cells with cross-reactivity against alloantigens: potency and flaws of present experimental methods <i>Transplant Direct 2015 Nov 4;1(10):e40</i>	45
Chapter 4	Infection with a virus generates a polyclonal immune response with broad alloreactive potential <i>Hum Immunol 2019 Feb;80(2):97-102</i>	69
Chapter 5	Stimulation of human EBV- and CMV-specific cytolytic effector function using allogeneic HLA molecules <i>J Immunol 2012 Nov 15;189(10):4825-4831</i>	89
Chapter 6	Allo-HLA cross-reactivities of cytomegalovirus-, influenza-, and varicella zoster virus-specific memory T cells are shared by different individuals <i>Am J Transplant 2017 Aug;17(8):2033-2044</i>	109
Chapter 7	The avidity of cross-reactive virus-specific T cells for their viral and allogeneic epitopes is variable and depends on epitope expression <i>Hum Immunol 2018 Jan;79(1):39-50</i>	133
Chapter 8	Summary & General discussion	153
Chapter 9	Nederlandse samenvatting	164
	References	168
	Curriculum vitae	187
	Publicaties	188
	Abbreviations	190
	Dankwoord	192