



Universiteit
Leiden

The Netherlands

T cell immunity to islets of Langerhans : relevance for immunotherapy and transplantation to cure type 1 diabetes

Huurman, V.A.L.

Citation

Huurman, V. A. L. (2009, March 4). *T cell immunity to islets of Langerhans : relevance for immunotherapy and transplantation to cure type 1 diabetes*.

Retrieved from <https://hdl.handle.net/1887/13597>

Version: Corrected 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/1887/13597>

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

ACKNOWLEDGEMENTS

A large number of people have aided in completing this thesis, either by conducting research or by mentally supporting the author. I would like to acknowledge all of them for their efforts, enthusiasm, intelligence, humour and their confidence in a good ending. Realizing that some others may be omitted, I would like to mention a number of people specifically:

- my colleagues at the Diabetes and Autoimmunity section of the IHB department, especially Gaby Duinkerken as the long-term driving force of our islet transplant immunity project;
- many people at the Immunogenetics and Transplant Immunology section, particularly Ellen van der Meer who did an great amount of work that accounts for a large part of our results, and Frans Claas and Dave Roelen for their expertise and supervision regarding the alloimmunity experiments;
- my colleagues from the Diabetes Research Center at the Vrije Universiteit Brussel, the core facility of the islet transplantation project, for their thoroughness in conducting research and their ongoing enthusiasm for our work;
- the LUMC transplant surgeons, who made it possible for me to participate in this project in the first place, and let me keep in touch with patient care;
- my current colleague residents at the department of Surgery for understanding the difficulty of finishing a thesis while being a resident;
- Tim Tree in London regarding our cloning experiments following from some of the results described in this thesis;
- my former supervisor in Boston, Anil Chandraker, for fuelling my enthusiasm for transplant-related research and for his willingness to continue collaborating;
- my paranymphs Jos Hectors and Otto Avenarius for their helpful advice and psychological aid;
- my family and friends who, without having to understand what exactly it was all about, showed their support and helped whenever needed;
- and finally, of course, my future wife Hanneke for her support, her patience and her ability to make any problem seem futile. Without her, completion of this thesis would have been far more difficult.

CURRICULUM VITAE

The author was born on September 16, 1979, in the very same hospital in Leiden at which the research leading to this thesis was conducted. He spent most of his youth in the south of the Netherlands and graduated from secondary school (gymnasium β) at the Jeanne d'Arc College in Maastricht in 1997. In the same year he started Medical School at Leiden University.

In 2001 and 2002 the author conducted his scientific graduation project at the Transplant Research Center, Brigham and Women's Hospital, Harvard Medical School in Boston, USA (prof.dr. M.H. Sayegh and dr. A. Chandraker). This research project considered the role of costimulatory molecules in transplant rejection and part of its results are included in this thesis.

Subsequently, the author followed clinical rotations at the Leiden University Medical Center and affiliated hospitals. Otolaryngology and Dermatology rotations were followed at the St. Elisabeth Hospital in Willemstad, Curaçao. In 2004 the author obtained his MD degree *cum laude* after following a senior rotation at the transplantation division of the department of Surgery at the Leiden University Medical Center.

In December 2004 he started his research on the relevance of T cell immunity in type 1 diabetes, islet and pancreas transplantation, again in Leiden at the department of Surgery in close collaboration with the department of Immunohaematology and Blood Transfusion (prof.dr. O.T. Terpstra and dr. B.O. Roep). He presented his work at several national and international meetings, during which his work was considered an 'outstanding abstract' at the Dutch Diabetes Research Association meetings in 2005, 2006 and 2007. In October 2007, the author started his surgical residency at the Leiden University Medical Center (prof.dr. J.F. Hamming).

LIST OF PUBLICATIONS

1. Chandraker A, [Huurman VAL](#), Hallet K, Yuan X, Zavazava N, Lu E, Oaks M. CTLA4 is important for long-term survival of cardiac allografts. *Transplantation* 2005 Apr 27;79(8):897-903.
2. [Huurman VAL](#), Kalpoe JS, van de Linde P, Vaessen N, Ringers J, Kroes ACM, Roep BO, de Fijter JW. Choice of antibody immunotherapy influences cytomegalovirus viremia in simultaneous pancreas-kidney transplant recipients. *Diabetes Care* 2006 Apr;29(4):842-7.
3. [Huurman VAL](#), Visser LG, Steens SCA, Terpstra OT, Schaapherder AFM. Persistent portal venous gas. *Journal of Gastrointestinal Surgery* 2006 May;10(5):783-5.
4. [Huurman VAL](#), Decochez K, Mathieu C, Cohen IR, Roep BO. Treatment with the hsp peptide p277 (DiaPep277™) in c-peptide positive type 1 diabetes patients. *Diabetes/Metabolism Research and Reviews* 2007 May;23(4):269-75.
5. [Huurman VAL](#), Stoot JHMB, Van der Linden E, Terpstra OT, Schaapherder AFM. Necrosis of a large hepatic tumor after hemorrhage and subsequent selective arterial embolization. *World Journal of Gastroenterology* 2006 Oct 7;12(37):6059-61.
6. [Huurman VAL](#), Unger WWJ, Koeleman BPC, Oaks M, Chandraker A, Terpstra OT, Roep BO. Differential inhibition of autoreactive memory- and alloreactive naïve T-cell responses by soluble CTLA4 and CTLA4Ig. *Clinical and Experimental Immunology* 2007 Dec;150(3):487-93.
7. [Huurman VAL](#), Van der Meide P, Duinkerken G, Willemsen S, Elias D, Cohen IR, Roep BO. Immunological efficacy of hsp60 peptide DiaPep277™ therapy in human type 1 diabetes. *Clinical and Experimental Immunology* 2008 Jun;152(3):488-97.
8. [Huurman VAL](#), Hilbrands R, Pinkse GGM, Gillard P, Duinkerken G, Van de Linde P, Van der Meer-Prins PMW, Versteeg-Van der Voort Maarschalk MFJ, Verbeeck K, Alizadeh BZ, Mathieu CM, Gorus FK, Roelen DL, Claas FHJ, Keymeulen B, Pipeleers DG, Roep BO. Cellular autoimmunity associates with clinical outcome after islet cell transplantation. *PLoS ONE* 2008 Jun 18;3(6):e2435.

9. Huurman VAL, Baranski AG, Groeneveld M, Keizer KM, Schaapherder AFM. Transplantation of urothelial cell carcinoma in a kidney allograft presenting by early stenosis of the proximal ureter. *Clinical Transplantation* 2008 Nov-Dec;22(6):847-50.
10. Huurman VAL, Velthuis JHL, Hilbrands R, Tree TIM, Gillard P, van der Meer-Prins PMW, Duinkerken G, Pinkse GGM, Keymeulen B, Roelen DL, Claas FHJ, Pipeleers DG, Roep BO. Allograft-specific cytokine profiles associate with clinical outcome after islet cell transplantation. *American Journal of Transplantation* 2009 Feb;9(2):382-388.
11. Roelen DL, Huurman VAL, Hilbrands R, Gillard P, Duinkerken G, Van der Meer-Prins PMW, Versteeg-Van der Voort Maarschalk MFJ, Mathieu C, Keymeulen B, Pipeleers DG, Roep BO, Claas FHJ. Relevance of cytotoxic alloreactivity under different immunosuppressive regimens in clinical islet cell transplantation. *Clinical and Experimental Immunology* In press.