



Universiteit  
Leiden  
The Netherlands

## **MHC class II antigen presentation by B cells in health and disease**

Souwer, Y

### **Citation**

Souwer, Y. (2009, December 1). *MHC class II antigen presentation by B cells in health and disease*. Retrieved from <https://hdl.handle.net/1887/14474>

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/1887/14474>

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

MHC class II antigen presentation  
by B cells  
in health and disease

Yuri Souwer

Cover: Onze eerste humane B cel die fluorescerent gekoppeld MHC klasse II tot expressie brengt, gevisualiseerd met een confocaal microscoop.

# MHC class II antigen presentation by B cells in health and disease

## **Proefschrift**

ter verkrijging van  
de graad van Doctor aan de Universiteit Leiden,  
op gezag van Rector Magnificus prof.mr. P.F. van der Heijden,  
volgens besluit van het College voor Promoties  
te verdedigen op dinsdag 1 december 2009  
klokke 11.15 uur

door

**Yuri Souwer**

geboren te Hoorn  
in 1975

promotiecommissie

Promotores: Prof.dr. J.J. Neefjes  
Prof. dr.C.J.L.M. Meijer  
*Vrije Universiteit, Amsterdam*

Copromotor: Dr. S.M. van Ham  
*Sanquin Research*

Overige leden: Prof.dr. T.H.M. Ottenhoff  
Prof.dr. F. Koning  
Prof.dr. M.L. Kapsenberg  
*Universiteit van Amsterdam*  
Prof.dr. L.A. Aarden  
*Universiteit van Amsterdam*  
Dr. A.A. van de Loosdrecht  
*Vrije Universiteit, Amsterdam*

©2009 Yuri Souwer

ISBN 978-90-9024860-8

Printed by: PrintPartners Ipskamp, Enschede, the Netherlands.

The work described in this thesis was performed at the Division of Tumor Biology of the Netherlands Cancer Institute (NKI-AVL), Amsterdam, The Netherlands; the Department of Immunopathology of Sanquin Research, Amsterdam, The Netherlands and the Department of Pathology of the VU University Medical Center, Amsterdam, The Netherlands. This work was supported by grants from The Dutch Cancer Society (KWF Kankerbestrijding) and the Landsteiner Foundation for Blood Research (LSBR). Financial support for the publication of this thesis was provided by: The Netherlands Cancer Institute (NKI-AVL), The Dutch Cancer Society (KWF Kankerbestrijding), and Sanquin Research.

## Contents

	<b>Page</b>
<b>Chapter 1.</b> General introduction	7
<b>Chapter 2.</b> BCR-mediated internalization of <i>Salmonella</i> : a novel pathway for autonomous B cell activation and antibody production	29
<b>Chapter 3.</b> Immune escape and dissemination of <i>Salmonella</i> via antigen-specific B lymphocytes	55
<b>Chapter 4.</b> Phagocytosis of <i>Salmonella</i> by B cells generates an effective cytotoxic T cell response via cross-presentation of <i>Salmonella</i> -antigens	73
<b>Chapter 5.</b> Class II-associated invariant chain peptide expression on myeloid leukemic blasts predicts poor clinical outcome	95
<b>Chapter 6.</b> Detection of aberrant transcription of MHC class II antigen presentation genes in chronic lymphocytic leukemia identifies <i>HLA-DOA</i> mRNA as a prognostic factor for survival	109
<b>Chapter 7.</b> Aberrant MHC class II antigen presentation is linked to expansion of the activated T cell compartment in B-cell chronic lymphocytic leukemia	127
<b>Chapter 8.</b> Summarizing discussion	145
Nederlandse samenvatting	157
Curriculum Vitae	167
Nawoord	169
<b>Appendix I</b> Color figures	173

