



Universiteit
Leiden
The Netherlands

Pathogenic role of (S)IgA in IgA nephropathy

Oortwijn, B.D.

Citation

Oortwijn, B. D. (2007, January 17). *Pathogenic role of (S)IgA in IgA nephropathy*. Retrieved from <https://hdl.handle.net/1887/8783>

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/1887/8783>

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

Pathogenic role of (S)IgA in IgA nephropathy

Beatrijs D. Oortwijn

Pathogenic role of (S)IgA in IgA nephropathy

Proefschrift

ter verkrijging van

de graad van Doctor aan de Universiteit Leiden,

op gezag van de Rector Magnificus Dr. D.D. Breimer,

hoogleraar in de faculteit der Wiskunde en

Natuurwetenschappen en die der Geneeskunde,

volgens besluit van het College voor Promoties

te verdedigen op woensdag 17 januari 2007

klokke 15.00 uur

door

Beatrijs Dorinda Oortwijn

geboren te Purmerend in 1979

PROMOTIECOMMISSIE

Promoter Prof. Dr. M.R. Daha

Copromoter Dr. C. van Kooten

Referent Prof. Dr. J.J. Weening (Academisch Medisch Centrum, Amsterdam)

Overige Leden Prof. Dr. A.M. Deelder
Dr. M. van Egmond (Vrije Universiteit Medisch Centrum, Amsterdam)
Dr. A. Gorter
Prof. Dr. P.S. Hiemstra
Prof. Dr. G.J. Navis (Universitair Medisch Centrum Groningen, Groningen)

The research described in the present thesis was performed at the Department of Nephrology of the Leiden University Medical Centre and was financed by a grant from the Dutch Kidney foundation (C99.1822)

Financial support for printing of this thesis from 3A-out foundation, the Dutch Kidney Foundation and the Jurriaanse stichting is gratefully acknowledged

Used by permission: Chapter 2 - © 2007 Elsevier, Chapter 4& 5 - © 2006 Lippincott Williams & Wilkins, Chapter 6 - © 2006 Nature Publishing Group

ISBN: 90-9021342-2, 978-90-9021342-2

Coverdesign: Beatrijs D. Oortwijn

Origin of the picture: Maria Pia Rastaldi

Printed by: Gildeprint Drukkerijen B.V., Enschede, The Netherlands.

© 2007 Beatrijs D. Oortwijn

In the middle of every difficulty lies opportunity'

-Albert Einstein

CONTENTS

Chapter 1	General Introduction	9
Chapter 2:	Monomeric and polymeric IgA show a similar association with the myeloid Fc α RI/CD89. <i>Mol. Immunol.</i> 44:966-973, 2007	27
Chapter 3:	Comparable binding of monomeric and polymeric IgA to the novel IgA Fc receptor, Fc α / μ R.	41
Chapter 4:	Glomerular activation of the lectin pathway of complement in IgA nephropathy is associated with more severe renal disease <i>J. Am. Soc. Nephrol. Jun;17(6):1724-1734, 2006</i>	55
Chapter 5:	Differential glycosylation of polymeric and monomeric IgA: a possible role in glomerular inflammation in IgA nephropathy <i>J. Am. Soc. Nephrol. in press</i>	73
Chapter 6:	A pathogenic role for secretory IgA in IgA nephropathy <i>Kidney Int. 69:1131-1138, 2006</i>	93
Chapter 7:	Demonstration of secretory IgA in kidneys of patients with IgA nephropathy <i>Submitted</i>	109
Chapter 8:	General Discussion and Summary	117
	Samenvatting	131
	Dankwoord	135
	Curriculum Vitae	136
	Publications	137
	Color Figures	139

ABBREVIATIONS

Aa	amino acid
ASGPR	asialoglycoprotein receptor
BSA	bovine serum albumin
CHO	chinese hamster ovary
CTB	cholera toxin B
DC	dendritic cells
Dig	digoxigenin
dlgA	dimeric IgA
EDTA	ethylenediaminetetraacetic acid
ELISA	enzyme-linked immunosorbent assay
FACS	fluorescence-activated cell sorter
FCS	fetal calf serum
HMW	high molecular weight
IgA	Immunoglobulin A
IgAN	IgA nephropathy
IL	interleukin
kDa	kilo dalton
KLH	keyhole limpet hemocyanin
mAb	monoclonal antibody
MAC	membrane attack complex
MASP	MBL-associated serine protease
MBL	mannose-binding lectin
MCP-1	monocyte chemoattractant protein-1
MFI	mean fluorescence intensity
MIF	macrophage migration inhibitory factor
mlgA	monomeric IgA
NHMC	normal human mesangial cells
NHS	normal human serum
plgA	polymeric IgA
plgR	polymeric Ig receptor
RT-PCR	reverse transcriptase polymerase chain reaction
SC	secretory component
SDS-PAGE	sodium dodecyl sulphate- poly acrylamide gel electrophoresis
SIgA	secretory IgA
SNP	single nucleotide polymorphism
SPR	surface plasmon resonance
TGF	transforming growth factor
TNF	tumor necrosis factor