Analysis of systemic complement in experimental renal injury and disease

Kotimaa, J.

Chapter 10

Acknowledgements
Curriculum Vitæ
Bibliography
Abbreviations

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While reflecting on the process of writing this thesis, it comes to mind that the old adage 'it takes a village…' best describes the journey. I have had the privilege to be inspired by brilliant scientists, both young and old, and to receive steadfast support in and out of the laboratory along the way.

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CURRICULUM VITAE

About the Author,

Juha was born in Helsinki, Finland on May the 20th 1981. He completed his Master's degree at University of Helsinki in 2008, with specialisation in health biochemistry, chemistry, and molecular biology. The research work undertaken in the M.Sc. thesis was done under the guidance of docent, PhD Marja-Leena Laukkanen at Technical Research Centre of Finland (VTT) Immunotechnology group. The thesis focused on development of cancer-specific recombinant antibodies and their structural modification for cancer therapy applications, such as targeted delivery of siRNA. Further work on the topic was done between 2006 and 2009, and through collaborative effort, the preliminary findings on the novel antibody-dendrimer conjugates were published in Chemistry in 2010.

In 2008, Juha joined VTT spin-off company Plexpress Oy as an application scientist. There he was part of the team setting up company operations and his research helped in improvement of gene-expression methodology 'TRAC' for ADME-T studies and *in vitro* gene expression screening. In 2011, he started as a Marie Curie-Sklodowskaja Early Stage Researcher at EU research project TransVIR (Translational research in vascular inflammation). The position was shared between the Leiden University Medical Centre (LUMC) based Experimental Nephrology and Transplant Immunology research group and by an industrial partner Hycult Biotech B.V., which specialises on development of research reagents for innate-immunity studies. The project aimed not only to fulfil the academic qualifications for a PhD, but also to facilitate the transfer of methodology and reagents which would fit to the portfolio of Hycult Biotech. The academic work positioned at LUMC was led by Prof. Cees van Kooten as the promotor, and Prof. Mohamed R. Daha as the co-promotor, whereas at Hycult Biotech the liaison was first Dr. Helma Rutjes and later Dr. Geert Schilders. The work was focused on the complement system and revolved around two main themes, application and method development, and murine models of renal disease and injury. The work resulting from this collaborative project has been described in this thesis. From 2015 onwards, Juha has worked as a Senior Scientist at Vaccinogen Ireland R&D in Dublin, Ireland in the field of immunotherapy and antibody discovery.

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   ϕ Both authors contributed equally.

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ABBREVIATIONS

AAV	Interassay variation
ABTS	2,2'-azino-bis(3-ethylbenzthiazoline-6-sulfonic acid)
AKI	acute kidney injury
AL	Ad Libitum
AP	alternative pathway
ANCA	anti-neutrophil cytoplasmic antibody vasculitis
ATN	acute tubular necrosis
CP	classical pathway
CRP	C-reactive protein or complement regulatory protein
DAMP	danger-associated molecular pattern
DC	dendritic cell
DGF	delayed graft function
DIG	digitonin
DR	dietary restriction
ELISA	enzyme linked immunosorbent assay
FA	fasting
FITC	fluorescein isothiocyanate
GBM	glomerular basement membrane
GlcNAc	N-acetyl-D-glucosamine
HRP	horseradish peroxidase
IHC	Immunohistochemistry
IAV	Intra-assay variation
I/R	ischemia/reperfusion
I/RI	ischemia/reperfusion injury
KO	knockout (gene)
LP	lectin pathway
LPS	lipopolysaccharide
mAb	monoclonal antibody
MAC	membrane attack complex
MASP	MBL-associated serine protease
MBL	mannan-binding lectin
MPO	myeloperoxidase
NMS	normal mouse serum
pAb	polyclonal antibody
PMN	polymorphonuclear cell
PBS	phosphate buffered saline
ROS	reactive oxygen species
SAP	serum amyloid protein
SD	standard deviation
SEM	standard error of the mean
SNP	single nucleotide polymorphism
TBS	Tris-buffered saline
TLR	toll-like receptor
TP	terminal pathway
TRITC	Tetramethylrhodamine
TMB	3,3',5,5'-Tetramethylbenzidine
VBS	veronal buffered saline