



Universiteit
Leiden
The Netherlands

Genes and mediators of inflammation and development in osteoarthritis

Bos, S.T.

Citation

Bos, S. T. (2010, September 15). *Genes and mediators of inflammation and development in osteoarthritis*. Retrieved from <https://hdl.handle.net/1887/15944>

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/1887/15944>

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

Genes and Mediators of Inflammation and Development in Osteoarthritis

Steffan D. Bos

This project was funded by the Dutch Arthritis Association, project 04-1-403 entitled “The role of Cytokine Genes in the onset of Osteoarthritis”.
Financial support for the printing of this thesis was received from the Dutch Society for Matrix Biology.

Cover copyrights: *Cytokines* - F. Hoffmann-La Roche Ltd.; *Hip – Globalized Orthopedics*

Printed by Gildeprint, Enschede

ISBN 978-94-6108-076-9

© Steffan Daniël Bos, 2010

No part of this thesis may be reproduced, stored in a retrieval system or transmitted in any form by any means, without permission of the author or, when appropriate, of the publisher of publications.

Genes and Mediators of Inflammation and Development in Osteoarthritis

Proefschrift

Ter verkrijging van
de graad van Doctor aan de Universiteit van Leiden,
op gezag van Rector Magnificus prof. mr. P.F. van der Heijden,
volgens besluit van het College voor Promoties
te verdedigen op woensdag 15 september 2010
klokke 13:45

door

Steffan Daniël Bos

Geboren te Beverwijk in 1979

Promotiecommissie

Promotor **Prof. dr. P.E. Slagboom**

Co-promotor **Dr. I. Meulenbelt**

Overige leden **Prof. dr. J. Loughlin** (Newcastle University, United Kingdom)
Prof. dr. G.J. van Ommen
Dr. J.B. van Meurs (Erasmus MC, Rotterdam, The Netherlands)

Contents

<i>Chapter 1</i>	Introduction	7
<i>Chapter 2.1</i>	Genetic association of the interleukin-1 gene cluster with innate cytokine production profiles and osteoarthritis in subjects of the GARP study.	29
<i>Chapter 2.2</i>	A genome wide linkage scan reveals <i>CD53</i> as an important regulator of innate TNF-alpha levels.	45
<i>Chapter 2.3</i>	Allelic variation at the C-reactive protein gene associates to both hand osteoarthritis severity and serum high sensitive CRP levels in the GARP study.	61
<i>Chapter 2.4</i>	The role of plasma cytokine levels, CRP and selenoprotein S gene variation in OA.	73
<i>Chapter 3</i>	Functional characterization of type II deiodinase in human OA cartilage; assessment of <i>DIO2</i> allelic expression imbalance and immunohistochemistry of thyroid hormone signaling proteins.	91
<i>Chapter 4</i>	Discussion	105
<i>Chapter 5</i>	Summary	121
<i>Chapter 6</i>	Nederlandse samenvatting	127
	List of publications	137
	Curriculum vitae	139
	Nwoord	141