



Universiteit
Leiden
The Netherlands

Neuroimmune guidance cues in vascular (patho)physiology

Vreeken, D.

Citation

Vreeken, D. (2022, April 26). *Neuroimmune guidance cues in vascular (patho)physiology*. Retrieved from <https://hdl.handle.net/1887/3285014>

Version: Publisher's Version

[Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

License: <https://hdl.handle.net/1887/3285014>

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

Neuroimmune guidance cues in vascular (patho)physiology

Dianne Vreeken

Author: Dianne Vreeken

Cover: Dianne Vreeken

Layout: Liesbeth & Dianne Vreeken

Printing: Gildeprint, Enschede Nederland

ISBN: 978-94-6419-467-8

Copyright © 2022, D. Vreeken, Oegstgeest, The Netherlands

No parts of this thesis may be reproduced, stored in a retrieval system or transmitted in any form or by any means, without prior written permission of the author.

Neuroimmune guidance cues in vascular (patho)physiology

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof. dr. ir. H. Bijl,
volgens besluit van het college voor promoties
te verdedigen op dinsdag 26 april 2022
klokke 15.00 uur

door

Dianne Vreeken
geboren te Noordwijkerhout
in 1991

Promotor:

Prof. dr. A.J. van Zonneveld

Co-promotor:

Dr. J.M. van Gils

Promotiecommissie:

Prof. dr. P.H.A. Quax

Prof. dr. C. van Kooten

Prof. dr. M.J.T.H. Goumans

Prof. dr. G.K. Hovingh

- Amsterdam UMC

Dr. K.J. Rayner

- University of Ottawa

The research described in this thesis was carried out at the department of Internal Medicine of the Leiden University Medical Center.

Financial support by the Dutch Heart Foundation for the publication of this thesis is gratefully acknowledged.

Contents

Chapter 1	General introduction and scope of the thesis	7
Chapter 2	Downregulation of endothelial Plexin A4 under inflammatory conditions impairs vascular integrity	15
Chapter 3	Ephs and Ephrins in adult endothelial biology	49
Chapter 4	Eph receptor B2 stimulates human monocyte adhesion and migration independently of its EphrinB ligands	77
Chapter 5	Functional analysis of rare genetic variants in ligand-receptor pair EphrinB2-EphB4 in the pathophysiology of atherosclerosis	107
Chapter 6	The identification and function of a Netrin-1 mutation in a pedigree with premature atherosclerosis	129
Chapter 7	Summary and discussion	159
Chapter 8	Nederlandse samenvatting	172
	Curriculum Vitae	177
	List of publications	178
	Dankwoord	180