

University of Groningen

Insulin-like growth factor system in glial cells

Chesik, Daniel

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:
2004

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Chesik, D. (2004). Insulin-like growth factor system in glial cells Groningen: s.n.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Insulin-like growth factor system in glial cells

**Daniel Chesik
2004**

The studies described in this thesis were performed at the Department of Neurology,
Faculty of Medical Sciences, University of Groningen, the Netherlands.

Cover design and lay-out by Daniel Chesik
Printed by Facilitair bedrijf, University of Groningen

Het verschijnen van dit proefschrift werd mede mogelijk gemaakt door financiële steun
van
Stichting Vrienden Multiple Sclerosis Research
Multiple Sclerosis Internationaal (MSI)
Behavioral and Cognitive Neurosciences (BCN)

RIJKSUNIVERSITEIT GRONINGEN

Insulin-like growth factor system in glial cells

Proefschrift

ter verkrijging van het doctoraat in de
Medische Wetenschappen
aan de Rijksuniversiteit Groningen
op gezag van de
Rector Magnificus, dr. F. Zwarts,
in het openbaar te verdedigen op
woensdag 15 september 2004
om 13:15 uur

door

Daniel Chesik

geboren op 13 februari 1968
te Detroit, Verenigde Staten

Promotores: Prof. Dr. J.H.A. De Keyser
Prof. Dr. P.G.M. Luiten

Copromotor Dr. N. Wilczak

Beoordelingscommissie: Prof. dr. D. Hoekstra
Prof. dr. F. Kroese
Prof. dr. J. Korf

ISBN: 90-367-2099-0

Paranymphen:

Felix Geeraedts

Koen Glazenburg

Dedicated to Anne-Mirjam Theissen

*Don't judge someone by the heights they rise to,
but by the depths from which they come.*

CONTENTS

Chapter 1	General Introduction	1
Chapter 2	Involvement of insulin-like growth factor binding protein-2 in activated microglia as assessed in post mortem human brain	21
	D. Chesik, J. De Keyser, N. Wilczak	
	<i>Neuroscience Letters (2004); 362(1): 14-16</i>	
Chapter 3	Insulin-like growth factor binding proteins: regulation in astrogliotic plaques in multiple sclerosis and functional analysis on glial cells	31
	D. Chesik, J. De Keyser, N. Wilczak	
Chapter 4	Enhanced expression and proteolytic degradation of insulin-like growth factor binding protein-2 in proliferating rat astrocytes	51
	D. Chesik, N. Kuhl, N. Wilczak, J. De Keyser	
	<i>Journal of Neuroscience Research (in press)</i>	
Chapter 5	Insulin-like growth factor binding protein-4 interacts with centrosomes and microtubules in primary astrocytes	73
	D. Chesik, N. Wilczak, J. De Keyser	
	<i>Neuroscience: (2004) 125: 381-390</i>	
Chapter 6	Insulin-like growth factor binding protein-1-6 expression in activated microglia	95
	D. Chesik, K. Glazenburg, N. Wilczak, F. Geeraerdts, J. De Keyser	
	<i>NeuroReport: (2004) 15(6): 1033-1037</i>	
Chapter 7	Unique stimulation of the type-1 insulin-like growth factor receptor in oligodendrocytes	109
	D. Chesik, K. Glazenburg, N. Kuhl, J. De Keyser, N. Wilczak	
Chapter 8	Discussion and conclusions	127
	Samenvatting (Summary in Dutch)	135
	Abbreviations	141
	Acknowledgements	145

