

Selective Glucocorticoid Receptor Modulation
TARGETING THE BRAIN UNDER STRESS

Ioannis Zalachoras

(Ιωάννης Ζαλαχώρας)

**Selective Glucocorticoid Receptor Modulation:
TARGETING THE BRAIN UNDER STRESS**

Ioannis Zalachoras

September, 2014

Cover image: Oligonucleotides injection (green) in the central nucleus of the amygdala of the mouse brain.

Cover and layout: Ioannis Zalachoras and Vasiliki-Maria Rogkoti
Printing: Off Page - Amsterdam

Copyright 2014: Ioannis Zalachoras

ISBN: 978-94-6182-480-6

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/28734> holds various files of this Leiden University dissertation

Author: Zalachoras, Ioannis

Title: Targeting the brain under stress : selective glucocorticoid receptor modulation

Issue Date: 2014-09-17

Selective Glucocorticoid Receptor Modulation

TARGETING THE BRAIN UNDER STRESS

Proefschrift

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof. mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op woensdag 17 september 2014
klokke 12:30 uur.

door

Ioannis Zalachoras

geboren te Thessaloniki, Griekenland
in 1984

PROMOTIECOMMISSIE

Promotor Prof. Dr. E.R. de Kloet

Copromotor Dr. O.C. Meijer

Overige leden Prof. Dr G.J.B. van Ommen
Prof. Dr. P.C.N. Rensen
Prof. Dr. N.J.A. van der Wee
Prof. Dr. A.M. Pereira
Prof. Dr. M.S. Oitzl, Universiteit van Amsterdam
Dr. E. Kalkhoven, Universitair Medisch Centrum Utrecht

The research described in this thesis was performed at the former division of Medical Pharmacology of the Leiden Academic Center for Drug Research (LACDR), Leiden University and at the department of Endocrinology and Metabolic Diseases of the Leiden University Medical Center (LUMC), Leiden, The Netherlands.

This research was financially supported by the Center for Medical Systems Biology consortium and Corcept Therapeutics.

Table of contents

Chapter 1	General introduction	7
Chapter 2	Antisense-mediated isoform switching of Steroid Receptor Coactivator-1 in the central nucleus of the amygdala of the mouse brain	33
Chapter 3	Steroid Receptor Coactivator-1 isoform switching in the central nucleus of the amygdala results in impaired contextual fear conditioning and abrogation of CRH expression regulation by glucocorticoids	55
Chapter 4	Differential targeting of brain stress circuits with a selective glucocorticoid receptor modulator	73
Chapter 5	C118335 antagonizes glucocorticoid receptor - dependent effects on gene expression and fear memory consolidation	91
Chapter 6	General discussion	105
Chapter 7	Summary	120
	Samenvatting	123
Addendum	Publication list	128
	Curriculum vitae	129
	Travel grants - awards	130

