



Universiteit
Leiden
The Netherlands

TRPM7, Calcium and the cytoskeleton

Langeslag, Michiel

Citation

Langeslag, M. (2006, October 11). *TRPM7, Calcium and the cytoskeleton*. Retrieved from <https://hdl.handle.net/1887/4863>

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/1887/4863>

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

TRPM7, Calcium and the Cytoskeleton

Michiel Langeslag

TRPM7, Calcium and the Cytoskeleton

PROEFSCHRIFT

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van de Rector Magnificus Dr. D. D. Breimer,
hoogleraar in de faculteit der Wiskunde en
Natuurwetenschappen en die der Geneeskunde,
volgens besluit van het College voor Promoties
te verdedigen op 11 oktober 2006
klokke 13.45 uur

door

Michiel Langeslag

geboren te Vlissingen
in 1976

Promotiecommissie

Promotor Prof. Dr. W.H. Moolenaar

Co-promotor Dr. K. Jalink (Nederlands Kanker Instituut, Amsterdam)

Referent Dr. E.H. Danen

Overige leden Prof. Dr. J.J. Neefjes
Prof. Dr. T. Schmidt
Dr. F.N. van Leeuwen (NCMLS, Radboud Universiteit, Nijmegen)

The work described in this thesis was performed at the Division of Cell Biology of the Netherlands Cancer Institute, Amsterdam, The Netherlands. This work was supported by The Netherlands Cancer Institute

Table of Contents

Chapter I

Introduction	7
--------------	---

Chapter II

Gq/Phospholipase C-coupled Agonists Activate TRPM7 Channels under Physiological Conditions	41
---	----

Chapter III

PIP ₂ as a Physiological Determinant of TRPM7 Channel Activity	59
---	----

Chapter IV

TRPM7, a Novel Regulator of Actomyosin Contractility and Cell Adhesion	71
---	----

Supplemental Material	89
-----------------------	----

Chapter V

Calcium Signaling Regulates Translocation and Activation of Rac	95
---	----

Summary	109
---------	-----

Samenvatting	113
--------------	-----

Curriculum Vitae	117
------------------	-----

List of Publications	121
----------------------	-----

