



Universiteit
Leiden
The Netherlands

Modulation of airway epithelial cell function by vitamin D in COPD

Schrumpf, J.A.

Citation

Schrumpf, J. A. (2021, May 20). *Modulation of airway epithelial cell function by vitamin D in COPD*. Retrieved from <https://hdl.handle.net/1887/3166308>

Version: 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/1887/3166308>

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

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/3166308> holds various files of this Leiden University dissertation.

Author: Schrumpf, J.A.

Title: Modulation of airway epithelial cell function by vitamin D in COPD

Issue date: 2021-05-20

Modulation of airway epithelial cell function by vitamin D in COPD

Jasmijn Adri-Anna Schrumpf

Colophon

Modulation of airway epithelial cell function by vitamin D in COPD

Jasmijn A. Schrumpf

Thesis Leiden University Medical Center

The research of this thesis was financially supported by the Lung Foundation Netherlands (project code: 5.1.13.033)

ISBN: 978-94-6423-205-9

Printing: ProefschriftMaken, De Bilt

The printing of this thesis was financially supported by:

Lung Foundation Netherlands

Stichting Astma Bestrijding

Cover: Eva Schrumpf en Jasmijn Schrumpf

© 2021 J. Schrumpf, Lisse, The Netherlands. All rights reserved. No part of this thesis may be reproduced, stored or transmitted in any form or by means, without prior written permission of the author.

Modulation of airway epithelial cell function by vitamin D in COPD

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 donderdag 20 mei 2021
klokke 15:00 uur

door

Jasmijn Adri-Anna Schrumpf
geboren te Roelofarendsveen in 1978

Promotor: Prof. dr. P.S. Hiemstra

Copromotor: Dr. A.M. van der Does

Leden promotiecommissie: Prof. dr. T.H.M. Ottenhoff
Prof. dr. S. Gibbs (Amsterdam UMC, Amsterdam)
Prof. dr. A.M.W.J. Schols (Maastricht UMC⁺,
Maastricht)

Table of Contents

Chapter 1	General Introduction and outline of the thesis	1
Chapter 2	Aberrant epithelial differentiation by cigarette smoke dysregulates respiratory host defence	17
	<i>Eur Respir J. 2018 Apr 26;51(4):1701009</i>	
Chapter 3	TGF-β1 impairs vitamin D-induced and constitutive airway epithelial host defence mechanisms	57
	<i>J Innate Immun. 2020;12(1):74-89</i>	
Chapter 4	Pro-inflammatory cytokines impair vitamin D-induced host defense in cultured airway epithelial cells	89
	<i>Am J Respir Cell Mol Biol. 2017 Jun;56(6):749-76</i>	
Chapter 5	Interleukin 13 Exposure Enhances Vitamin D-Mediated Expression of the Human Cathelicidin Antimicrobial Peptide 18/LL-37 in Bronchial Epithelial Cells	123
	<i>Respir Res. 2011 May 2;12(1):59</i>	
Chapter 6	Prevention of exacerbations in patients with COPD and vitamin D deficiency through vitamin D supplementation (PRECOVID): a study protocol	151
	<i>BMC Pulm Med. 2015 Sep 23;15:106</i>	
Chapter 7	Impact of the local inflammatory environment on mucosal vitamin D metabolism and signaling in chronic inflammatory lung diseases	171
	<i>Front Immunol. 2020 Jul 10;11:1433</i>	
Chapter 8	Summary and general discussion	209
Addendum	Nederlandse samenvatting	235
	Curriculum vitae	247
	Publicaties.....	250
	Dankwoord	253