



Universiteit
Leiden
The Netherlands

Rapid and sensitive methods for the analysis and identification of O-glycans from glycoproteins

Kozak, R.P.

Citation

Kozak, R. P. (2017, January 24). *Rapid and sensitive methods for the analysis and identification of O-glycans from glycoproteins*. Retrieved from <https://hdl.handle.net/1887/45434>

Version: Not Applicable (or Unknown)

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

Downloaded from: <https://hdl.handle.net/1887/45434>

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

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/45434> holds various files of this Leiden University dissertation.

Author: Kozak, R.P.

Title: Rapid and sensitive methods for the analysis and identification of O-glycans from glycoproteins

Issue Date: 2017-01-24

Rapid and sensitive methods for the analysis and identification of O-glycans from glycoproteins

Radoslaw Pawel Kozak

ISBN: 978-94-6295-566-0

© 2016 Radoslaw Pawel Kozak. All rights reserved. No part of this book may be reproduced, stored in a retrieval system or transmitted in any form or by any means without permission of the author or the journals holding the copyrights of the published manuscripts. All published material was reprinted with permission.

The work presented in this thesis was performed at Ludger Ltd, Oxfordshire, UK and Centre for Proteomics and Metabolomics from the Leiden University Medical Centre.

The studies described in this thesis were supported by Ludger Ltd. The printing of this thesis was financially supported by Ludger Ltd.

Photography: Matthew Doherty (Ludger Ltd)

Cover design: Ewelina Semba

Layout and printing: Proefschriftmaken

Rapid and sensitive methods for the analysis and identification of O-glycans from glycoproteins

Proefschrift

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van de Rector Magnificus Prof.mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op dinsdag 24 januari 2017
klokke 11.15 uur

door

Radoslaw Pawel Kozak
geboren te Wloclawek
op 05 november 1983

Promotores:

Prof. Dr. A.M. Deelder

Prof. Dr. M. Wuhrer

Co-promotor:

Dr. D.L. Fernandes

Leden

promotiecommissie:

Prof. Dr. S. Flitsch

(University of Manchester)

Prof. Dr. H.J. Guchelaar

Prof. Dr. H.S. Overkleeft

Prof. Dr. H. P. Spaink

Dr. C.Balog

Table of Content

Chapter 1

<i>General introduction</i>	7
-----------------------------	----------

Chapter 2

<i>Protein O-glycosylation analysis</i>	21
---	-----------

Chapter 3

<i>Suppression of peeling during the release of O-glycans by hydrazinolysis.</i>	75
--	-----------

Chapter 4

<i>Improved nonreductive O-glycan release by hydrazinolysis with ethylenediaminetetraacetic addition.</i>	103
---	------------

Chapter 5

<i>Comparison of procainamide and 2-aminobenzamide labelling for profiling and identification of glycans by liquid chromatography with fluorescence detection coupled to electrospray ionization-mass spectrometry.</i>	127
---	------------

Chapter 6

<i>Variation of human salivary O-glycome.</i>	139
---	------------

Chapter 7

<i>General discussion.</i>	165
----------------------------	------------

Addendum

<i>English Summary</i>	178
<i>Dutch Summary</i>	182
<i>Curriculum Vitae</i>	191
<i>List of publications</i>	192
<i>Acknowledgements</i>	195

