

University of Groningen

Targets in the microenvironment of rectal cancer

Tamas, Karin Rita

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:

2015

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

Citation for published version (APA):

Tamas, K. R. (2015). *Targets in the microenvironment of rectal cancer: A focus on angiogenic growth factors and chemokines*. University of Groningen.

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.

Targets in the microenvironment of rectal cancer

A focus on angiogenic growth factors and chemokines

Karin Tamas

Targets in the microenvironment of rectal cancer

A focus on angiogenic growth factors and chemokines

Printing of this thesis was financially supported by:

Stichting Werkgroep Interne Oncologie

University of Groningen

Graduate School of Medical Sciences

University Medical Center Groningen

Cover design and layout: Karin Tamas and Tamás Borsik

Layout and printing: MetPrint Kft., Budapest, Hungary

ISBN (printed): 978-90-367-8108-4

ISBN (digital): 978-90-367-8107-7

© 2015 Karin Tamas

All rights reserved. No parts of his book may be reproduced or transmitted in any form or by any means without permission of the author.



university of
 groningen

Targets in the microenvironment of rectal cancer

A focus on angiogenic growth factors and chemokines

PhD thesis

to obtain the degree of PhD at the
University of Groningen
on the authority of the
Rector Magnificus Prof. dr. E. Sterken
and in accordance with
the decision by the College of Deans.

This thesis will be defended in public on

Monday 19 October 2015 at 12.45

by

Karin Rita Tamas

born on 12 March 1970
in Baia Mare, Romania

Supervisors

Prof. G.A.P. Hospers

Prof. E.G.E. de Vries

Co-supervisor

Dr. A.M.E. Walenkamp

Assessment Committee

Prof. T. Wiggers

Prof. H. Hollema

Prof. D.J. Richel

Paranymphs

Urszula M. Domanska

Tudor Niciporuc

To Rose

Interaction with our environment shapes us as we develop as human beings and professionals. It is our choice whether we make the most of this interaction for a perpetual renewal.

Contents

Chapter 1	Introduction to the thesis	11
Chapter 2	Rectal and Colon cancer: Not Just a Different Anatomic Site <i>Cancer Treat Rev 2015;41:671-679</i>	23
Chapter 3	Evaluation of Short-Course Radiotherapy Followed by Neoadjuvant Bevacizumab, Capecitabine, and Oxaliplatin and Subsequent Radical Surgical Treatment in Primary Stage IV Rectal Cancer <i>Ann Oncol 2013;24:1762-1769</i>	57
Chapter 4	CXCR4 and CXCL12 Expression in Rectal Tumors of Stage IV Patients Before and After Local Radiotherapy and Systemic Neoadjuvant Treatment <i>Curr Pharm Des 2015;21:2276-2283</i>	85
Chapter 5	VEGFA and PlGF Protein Signature of Primary Stage IV Rectal Cancer Pre and Post Neoadjuvant Radiotherapy, Bevacizumab, and Chemotherapy <i>Curr Angiogenes 2014;3:164-173</i>	111
Chapter 6	Placental Growth Factor (PlGF)—Specific Uptake in Tumor Microenvironment of ⁸⁹ Zr-labeled PlGF Antibody RO5323441 <i>J Nucl Med 2013;54:929-935</i>	141
Chapter 7	Summary	167
Chapter 8	Discussion and Future Perspectives	177
Chapter 9	Nederlandse Samenvatting (Dutch Summary)	187
Chapter 10	Összefoglaló (Hungarian Summary)	197
Appendices	Biography	207
	Acknowledgments	209

