



## University of Groningen

### PET imaging and in silico analyses to support personalized treatment in oncology

Moek, Kirsten

DOI:

[10.33612/diss.112978295](https://doi.org/10.33612/diss.112978295)

**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:*

2020

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

*Citation for published version (APA):*

Moek, K. (2020). *PET imaging and in silico analyses to support personalized treatment in oncology*. [Groningen]: Rijksuniversiteit Groningen. <https://doi.org/10.33612/diss.112978295>

#### 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.

**PET imaging and in silico analyses to  
support personalized treatment in oncology**

---

Kirsten Leonie Moek

# **PET imaging and in silico analyses to support personalized treatment in oncology**

Thesis, Rijksuniversiteit Groningen, The Netherlands

**Cover art:** Carolien Nieuweboer

**Lay out:** Carolien Nieuweboer

**Printed by:** Ipsonkamp printing

**ISBN (printed version):** 978-94-034-2388-3

**ISBN (electronic version):** 978-94-034-2389-0

The printing of this thesis was financially supported by the Stichting Werkgroep Interne Oncologie, Universitair Medisch Centrum Groningen, Graduate School of Medical Sciences, Rijksuniversiteit Groningen, Alrijne Ziekenhuis, and NoordNegentig.

## **Copyright K.L. Moek 2020**

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronically, mechanically, by photocopying, recording or otherwise, without the prior written permission of the author.



rijksuniversiteit  
groningen

# PET imaging and *in silico* analyses to support personalized treatment in oncology

## Proefschrift

ter verkrijging van de graad van doctor  
aan de Rijksuniversiteit Groningen  
op gezag van de  
rector magnificus prof. dr. C. Wijmenga  
en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op

maandag 24 februari 2020 om 14:30 uur

door

**Kirsten Leonie Moek**

geboren op 23 oktober 1985  
te Heemstede

**Promotor**

Prof. dr. E.G.E. de Vries

**Copromotores**

Dr. D.J.A. de Groot

Dr. R.S.N. Fehrmann

**Beoordelingscommissie**

Prof. dr. G.A.P. Hospers

Prof. dr. G.A. Huls

Prof. dr. E.F. Smit

**Paranimfen**

Clarieke Venema

Twan van der Werff





## CONTENTS

<b>Chapter 1</b>	General introduction	08
<b>Chapter 2</b>	Theranostics using antibodies and antibody-related therapeutics <i>J Nucl Med.</i> 2017;58(Suppl 2):83S-90S.	18
<b>Chapter 3</b>	A phase I continuous intravenous infusion study with the bispecific T-cell engager AMG 211/MEDI-565, targeting carcinoembryonic antigen and CD3, in patients with relapsed/refractory gastrointestinal adenocarcinoma	40
<b>Chapter 4</b>	<sup>89</sup> Zr-labeled bispecific T-cell engager AMG 211 PET shows AMG 211 accumulation in CD3-rich tissues and clear, heterogeneous tumor uptake <i>Clin Cancer Res.</i> 2019;25:3517-3527.	70
<b>Chapter 5</b>	Glypican 3 overexpression across a broad spectrum of tumor types discovered with functional genomic mRNA profiling of a large cancer database <i>Am J Pathol.</i> 2018;188:1973-1981.	104
<b>Chapter 6</b>	The antibody-drug conjugate target landscape across a broad range of tumor types <i>Ann Oncol.</i> 2017;28:3083-3091.	132
<b>Chapter 7</b>	Summary and future perspectives	170
<b>Chapter 8</b>	Nederlandse samenvatting (Summary in Dutch)	182
<b>Chapter 9</b>	Dankwoord (Acknowledgments)	192