



Universiteit
Leiden

The Netherlands

Characterization of candidate genes in unexplained polyposis and colorectal cancer

Abayzeed Elsayed Osman, F.

Citation

Abayzeed Elsayed Osman, F. (2023, November 28). *Characterization of candidate genes in unexplained polyposis and colorectal cancer*. Retrieved from <https://hdl.handle.net/1887/3665175>

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/1887/3665175>

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

Characterization of candidate genes in unexplained polyposis and colorectal cancer

Fadwa Abayzeed Elsayed Osman

ISBN: 978-94-6483-467-3
Cover lay-out, lay-out and design: Daisy Zunnebeld | persoonlijkproefschrift.nl
Printing: Ridderprint | www.ridderprint.nl

Financial support for the printing of this thesis was kindly provided by the Department of Pathology of the Leiden University Medical Center and ChipSoft.

© 2023, Fadwa Abayzeed Elsayed Osman, The Netherlands
All rights reserved. No part of this thesis may be reproduced, stored in a retrieval system or transmitted in any form or by any means without prior permission of the author.

Characterization of candidate genes in unexplained polyposis and colorectal cancer

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 dinsdag 28 november 2023

klokke 15.00 uur

door

Fadwa Abayzeed Elsayed Osman

Promotor

Prof. dr. H. Morreau

Co-promotores

Dr. T. van Wezel

Dr. M. Nielsen

Leden promotiecommissie

Prof. dr. C.J. van Asperen

Prof. dr. F.J. Hes, Universitair Ziekenhuis Brussel

Prof. dr. M.E. van Leerdam

Dr. S.W. Bajwa-ten Broeke, Universitair Medisch Centrum Groningen

Table of contents

Chapter 1	General introduction and outline of this thesis	7
Chapter 2	Germline variants in <i>POLE</i> are associated with early onset mismatch repair deficient colorectal cancer <i>European Journal of Human Genetics, 2015; 23(8): 1080-1084</i>	29
Chapter 3	Low frequency of <i>POLD1</i> and <i>POLE</i> exonuclease domain variants in patients with multiple colorectal polyps <i>Molecular Genetics & Genomic Medicine, 2019; 7(4): e00603</i>	43
Chapter 4	Use of sanger and next-generation sequencing to screen for mosaic and intronic <i>APC</i> variants in unexplained colorectal polyposis patients <i>Familial Cancer, 2022; 21(1): 79-83</i>	57
Chapter 5	Mutational signature analysis reveals <i>NTHL1</i> deficiency to cause a multi-tumor phenotype <i>Cancer Cell, 2019; 35(2): 256-266.e5</i>	69
Chapter 6	Monoallelic <i>NTHL1</i> loss-of-function variants and risk of polyposis and colorectal cancer <i>Gastroenterology, 2020; 159(6): 2241-2243.e6</i>	111
Chapter 7	Discussion and future perspectives	129
Chapter 8	Summary	144
	Nederlandse samenvatting	147
	List of publications	150
	Curriculum vitae	152
	Acknowledgements	153

