

University of Groningen

Homologous recombination: a Swiss Army knife for protecting genome integrity

Claussin, Clemence

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:

2017

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

Citation for published version (APA):

Claussin, C. (2017). *Homologous recombination: a Swiss Army knife for protecting genome integrity*. [Groningen]: 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.

Homologous recombination: a Swiss Army knife for protecting genome integrity

Clémence Claussin

Homologous recombination: a Swiss Army knife for protecting genome integrity

Research conducted at:

European Institute for the Biology of Ageing, Groningen, the Netherlands
University Medical Center Groningen, University of Groningen, Groningen,
the Netherlands

Cover design by: Clémence Claussin

Comics design by: Clémence Claussin

Photography by: Justine Claussin

Printed by: Ridderprint BV, Ridderkerk

ISBN (printed version): 978-90-367-9549-4

ISBN (electronic version): 978-90-367-9548-7

Copyright © 2017 by Clémence Claussin

All rights reserved, No part of this book may be reproduced without prior permission by the author.



university of
 groningen

Homologous recombination: a Swiss Army knife for protecting genome integrity

PhD Thesis

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

This thesis will be defended in public on

Wednesday 22 March 2017 at 16.15 hours

By

Clémence Claussin

born on 21 February 1989
 in Nancy, France

Supervisor

Prof. P.M. Lansdrop

Co-supervisor

Dr. M. Chang

Assessment Committee

Prof. M.A.T.M van Vugt

Prof. M. Lisby

Prof. P. Pasero

Table of Contents

CHAPTER 1		7
Introduction		
CHAPTER 2		21
The many facets of homologous recombination at telomeres <i>Microbial Cell. 2015 Sep 1;2(9):308-321</i>		
CHAPTER 3		47
Multiple Rad52-mediated homology-directed repair mechanisms are required to prevent telomere attrition-induced senescence in <i>Saccharomyces cerevisiae</i> <i>PLoS Genet. 2016 Jul 18;12(7):e100067176</i>		
CHAPTER 4		75
Double-strand breaks are not the main cause of spontaneous SCEs in <i>Saccharomyces cerevisiae</i>		
CHAPTER 5		93
Characterization of the strand-annealing activity of Rad52		
CHAPTER 6		105
Discussion and future perspectives		
APPENDICES		
List of abbreviations		118
Dutch summary		119
English summary		122
Franch summary		124
List of publications		126
Acknowledgements		127
When baking met science		131

Hey Sis,
What is homologous
recombination?

I guess it is related to
DNA, and its repair.

And what do they mean with
"Swiss Army knife for
protecting genome
integrity"?

Isn't it because there are
multiple functions for
homologous recombination.

