

From DEPARTMENT OF ONCOLOGY AND PATHOLOGY  
Karolinska Institutet, Stockholm, Sweden

# EXPLORING GENE EXPRESSION PROGRAMS

Christian Oertlin



**Karolinska  
Institutet**

Stockholm 2021

©2021 Christian Oertlin

All previously published papers were reproduced with permission from the publisher

Published by Karolinska Institutet

Printed by US-AB

ISBN

Exploring Gene Expression Programs

THESIS FOR DOCTORAL DEGREE (Ph.D.)

By

**Christian Oertlin**

*Principal Supervisor:*

Dr. Ola Larsson

Karolinska Institutet

Department of Oncology and Pathology

*Opponent:*

Prof. Alessandro Quattrone

University of Trento

Department of Cellular, Computational and  
Integrative Biology

*Co-supervisor:*

Dr. Ivan Topisirovic

McGill University

Department of Oncology

*Examination Board:*

Prof. Lukas Käll

Kungliga Tekniska Högskolan

Division of Gene Technology

Prof. Arne Östman

Karolinska Institutet

Department of Oncology

Prof. Rickard Sandberg

Karolinska Institutet

Department of Cell and Molecular Biology

# Abstract

placeholder

## List of publications

**Oertlin Christian** , Lorent Julie , Murie Carl , Furic Luc , Topisirovic Ivan & Larsson Ola. (2019). Generally applicable transcriptome-wide analysis of translation using anota2seq. Nucleic acids research. 47. 10.1093/nar/gkz223.

Chan Karina<sup>†</sup> , Robert Francis<sup>†</sup> , **Oertlin Christian**<sup>†</sup> , Kapeller-Libermann Dana<sup>†</sup> , Avizonis Daina , Gutierrez Johana , Handly-Santana Abram , Doubrovin Mikhail , Park Julia , Schoepfer Christina , Silva Brandon , Yao Melissa , Gorton Faith , Shi Junwei , Thomas Craig , Brown Lauren , Porco John , Pollak Michael , Larsson Ola & Chio Iok In Christine. (2019). eIF4A supports an oncogenic translation program in pancreatic ductal adenocarcinoma. Nature Communications. 10. 5151. 10.1038/s41467-019-13086-5. <sup>†</sup>Equal contribution.

## Other publications or works

Hipolito Victoria , Diaz Jacqueline , Tandoc Kristofferson , **Oertlin Christian** , Ristau Johannes , Chauhan Neha , Saric Amra , Mclaughlan Shannon , Larsson Ola , Topisirovic Ivan & Botelho Roberto. (2019). Enhanced translation expands the endo-lysosome size and promotes antigen presentation during phagocyte activation. PLOS Biology. 17. e3000535. 10.1371/journal.pbio.3000535.

Liang Shuo , Bellato Hermano , Lorent Julie , Lupinacci Fernanda , **Oertlin Christian** , Hoef Vincent , Andrade Victor , Roffé Martín , Masvidal Laia , Hajj Glaucia & Larsson, Ola. (2017). Polysome-profiling in small tissue samples. Nucleic acids research. 46. 10.1093/nar/gkx940.

Sophie Kaspar, **Christian Oertlin**, Alexandra Kukat Katharina Senft, Karolina SzczepanowskaChristina Lucas, Susanne Brodesser, Maria Hatzoglou, Ola Larsson, Ivan Topisirovic, and AleksandraTrifunovic, Adaptation to mitochondrial stress requires CHOP-directed tuning of ISR, in review, Science Advances