AARHUS UNIVERSITY

Press release

Please fill in this form and return it to graduateschoolhealth@au.dk in Word format no later than three weeks prior to your defence.

Basic information

Name: Mads Valdemar Anderson Email: madsanderson@gmail.com Phone:

Department of: Biomedicine

Main supervisor: Jacob Giehm Mikkelsen

Title of dissertation: Lentiviral Ribonucleoprotein Transduction of CRISPR/Cas9 and in silico Design Tool for Prime Editing

Date for defence: 28/05 at (time of day): 09.30 Place: Online

Press release (Danish)

Nye redskaber til design og levering af genomredigeringskomponenter

Design og levering er to essentielle parametre til vellykket genomredigering. Et nyt ph.d.-projekt fra Aarhus Universitet, Health bidrager til udviklingen af nye redskaber til design og levering af værktøjer til genomredigering. Projektet er gennemført af Mads Valdemar Anderson, der forsvarer det d. 28/05.

Udviklingen af gensaksen CRISPR/Cas9 har forvandlet feltet for genomredigering og har sendt genterapi ind i en ny era. I det seneste årti har revolutionerende opdagelser gjort det muligt for forskere at udføre præcis "genetisk kirurgi". Med de teknologiske fremskridt følger dog nye udfordringer, da eksisterende metoder til levering af genterapier er uegnede til disse nye genredigeringsværktøjer. Med den nye Prime Editing teknologi kan genetisk information skrives direkte på et ønsket sted i genomet, hvilket giver forskere nye muligheder for specifik reparation af genetiske defekter. Selvom teknologien er lovende, er design af komponenterne til Prime Editing kompliceret. I forbindelse med sit ph.d.-projekt har Mads Valdemar Anderson udviklet nye redskaber til levering af CRISPR/Cas9 og design af Prime Editing eksperimenter, hvilket muliggør hurtigere udbredelse af denne lovende teknologi.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 28/05 kl. 09.30 online. Titlen på projektet er ”Lentiviral Ribonucleoprotein Transduction of CRISPR/Cas9 and in silico Design Tool for Prime Editing”. Yderligere oplysninger, samt link til online forsvar: Ph.d.-studerende Mads Valdemar Anderson, e-mail: madsanderson@gmail.com.

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Press release (English)

Novel tools for design and delivery of genome-editing components

Design and delivery are two key aspects for succesful genome editing. A new PhD.-project from Aarhus University, HEALTH, contributes to the development of novel tools for the delivery and design of genome editing components. The project was carried out by Mads Valdemar Anderson, who is defending his dissertation on 28/05.

The initial adaptation of the genetic scissors CRISPR/Cas9 triggered an explosive growth in the field of genome-editing and launched gene therapy into a new era. In the last decade, revolutionary discoveries have enabled researchers to perform precise "genetic surgery". However, with these technological advances come new challenges, as previously established methods for delivery of gene therapies are unfit for these emerging tools. The recently described Prime Editing technology directly writes genetic information into a desired DNA site, providing researchers with a "search-and-replace" genome-editing tool. While promising, the many degrees of freedom in designing Prime Editing experiments complicate the design. During his PhD project, Mads Valdemar Anderson has developed new tools for delivery of CRISPR/Cas9 and design of Prime Editing experiments, enabling faster adoption of this promising technology.

The defence is public and takes place on 28/05 at 09.30 online. The title of the project is "Lentiviral Ribonucleoprotein Transduction of CRISPR/Cas9 and in silico Design Tool for Prime Editing". For more information and link to the online defense, please contact PhD student Mads Valdemar Anderson, email: madsanderson@gmail.com.

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