

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: Jakob Haldrup Jensen Email: Haldrup@biomed.au.dk Phone: +45 60169485

Department of: Clinical Medicine

Main supervisor: Karina Dalsgaard Sørensen

Title of dissertation: Identification of molecular drivers of prostate cancer aggressiveness and drug resistance

Date for defence: 19/06/2020 at (time of day): 14.00 Place: Zoom - see below

Press release (Danish)

Identifikation af molekylære mekanismer associeret med prostata kræft aggressivitet og behandlingsresistens

Før i tiden blev det sagt, at mænd diagnosticeret med prostata cancer (PC) døde med sygdommen og ikke af sygdommen. Selvom det er sandt for de fleste mænd, så udvikler andre en aggressiv sygdom, som kræver øjeblikkelig behandling. Med de nuværende prognostiske værktøjer kan lægerne ikke præcist skelne mellem godartet- og ondartet PC på diagnose tidspunktet. Dette udgør et klinisk dilemma, idet manglen på prognostiske værktøjer resulterer i overbehandling af godartede tumorer med en række bivirkninger eller forsinket behandling af ondartet PC. Vi identificerede FRMD6 som et potentielt prognostisk værktøj og viste at tab af FRMD6 er forbundet med forøget PC aggressivitet i adskillige patientgrupper og prækliniske modeller.

For patienter med metastatisk kastrationsresistent prostatakræft (mCRPC) er der kun nogle få behandlinger tilgængelige (enzalutamide, abiraterone, docetaxel, and cabazitaxel). Selvom de fleste patienter indledningsvist responderer på behandling, så vil alle patienter før eller siden udvikle behandlingsresistens eller bivirkninger. Vi undersøgte de molekylære mekanismer, hvorved kræftceller udvikler behandlingsresistens og udvikle prædiktative biomarkører, der kan forudsige, om en bekostelig og potentielt skadelig behandling vil være gavnlig for den enkelte patient. Dette projekt giver ny indsigt i de molekylære mekanismer som ligger til grund for PC aggressivitet og behandlingsrespons, viser et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Jakob Haldrup Jensen, der forsvare det d. 19/06

Forsvaret af ph.d.-projektet er offentligt og finder sted den 19/06/2020 kl. 14 via Zoom. Link med adgang til forsvaret fremsendes ved henvendelse til undertegnede. Såfremt COVID-19 situationen tillader det, vil der også blive afholdt et fysisk forsvar for et begrænset publikum på Aarhus Universitet – kontakt undertegnede for nærmere information. Titlen på projektet er ”Identification of molecular drivers of prostate cancer aggressiveness and drug resistance”. Yderligere oplysninger: MSc, postdoc Jakob Haldrup Jensen, e-mail: Haldrup@biomed.au.dk, tlf. +45 60164985

Bedømmelsesudvalg:

Associate Professor, PhD, Lars Aagaard (chairman and moderator of the defense)
Department of Biomedicine, Aarhus University, Aarhus, Denmark. E-mail: Aagaard@Biomed.au.dk

Professor, PhD, Ian Mills
School of Medicine, Institute for Health Sciences, Queen’s University of Belfast, UK & Department of Oncology, University of Cambridge, UK. E-mail: I.mills@qub.ac.uk

Professor, PhD, Karen Dybkær

Department of Clinical Medicine, Aalborg University & Department of Hematology, Aalborg University Hospital, Aalborg, Denmark. E-mail: k.dybkaer@rn.dk

Press release (English)

Identification of molecular drivers of prostate cancer aggressiveness and drug resistance

It was once said that men diagnosed with prostate cancer (PC) die with the disease and not of the disease. While this is true for most men, other develop a highly aggressive disease that requires immediate treatment. However, the current clinicopathological parameters are unable to accurately differentiate between indolent- and aggressive PC at the time of diagnosis. This represents a clinical paradigm, as the lack of prognostic biomarkers results in overtreatment of indolent tumors as well as delayed treatment of aggressive PC. We identified FRMD6 as a potential prognostic biomarker, and established FRMD6 as a putative tumor suppressor gene associated with PC aggressiveness in multiple patient cohorts and pre-clinical models.

For patients with metastatic castration resistant prostate cancer (mCRPC), only a few treatments are routinely used in the clinic (enzalutamide, abiraterone, docetaxel, and cabazitaxel). Despite an initial response, all patients will invariably succumb to drug resistance or adverse effects. We investigated the molecular mechanisms by which cancer cells become resistant to treatment with the aim of identifying predictive biomarkers to ensure, that a costly and potentially harmful treatment is given only to patients who will benefit. Together, this PhD dissertation provides novel insight into the molecular mechanisms governing PC aggressiveness and treatment response. The project was carried out by Jakob Haldrup Jensen, who is defending his dissertation on 19/06/2020.

The defence will take place at the 19th of June via Zoom and/or physically at Aarhus University if the COVID-19 status allows. Zoom link will be sent upon request and/or the venue if possible upon request to Jakob Haldrup Jensen. The title of the PhD dissertation is "Identification of molecular drivers of prostate cancer aggressiveness and drug resistance". For more information, please contact Jakob Haldrup Jensen, e-mail: Haldrup@biomed.au.dk, tlf. +45 60164985

Assessment committee:

Associate Professor, PhD, Lars Aagaard (chairman and moderator of the defense)

Department of Biomedicine, Aarhus University, Aarhus, Denmark. E-mail: Aagaard@Biomed.au.dk

Professor, PhD, Ian Mills

School of Medicine, Institute for Health Sciences, Queen's University of Belfast, UK & Department of Oncology, University of Cambridge, UK. E-mail: I.mills@qub.ac.uk

Professor, PhD, Karen Dybkær

Department of Clinical Medicine, Aalborg University & Department of Hematology, Aalborg University Hospital, Aalborg, Denmark. E-mail: k.dybkaer@rn.dk

Permission

By sending in this form:

- I hereby grant permission to publish the above Danish and English press releases.
- I confirm that I have been informed that any applicable inventions shall be treated confidentially and shall under no circumstances whatsoever be published, presented or mentioned prior to submission of a patent application, and that I have an obligation to inform my head of department and the university's Patents Committee if I believe I have made an invention in connection with my work. I also confirm that I am not aware that publication violates any other possible holders of a copyright.