

## Press release

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### Basic information

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Department of: Biomedicine

Main supervisor: Professor Trine Hyrup Mogensen

Title of dissertation: Type I interferon defects in viral infections of the central nervous system

Date for defence: 17/05/2024 at (time of day): 14:00 Place: Merete Barker Auditorium (1253-211), Søauditorierne

Press release (Danish)

Ph.d.-forsvar: Morten Kelder Skouboe

Dette ph.d.-projekt har fokuseret på en gren af det antivirale immunforsvar kaldet interferoner hos patienter med alvorlige hjerneinfektioner forårsaget af levende svækkede vacciner eller herpes simplex virus.

Den første del af projektet omhandler en nyopdaget genetisk variant i interferon-receptoren, som i sjældne tilfælde kan give en meget høj risiko for svær sygdom efter vaccination med levende svækkede vacciner, fx mæslinger-fåresyge-røde hunde-vaccinen, samt ved luftvejsinfektioner som influenzavirus eller coronavirus. Varianten findes iblandt arktiske folkeslag, inklusive den grønlandske befolkning og Alaskas oprindelige befolkning.

Den anden del af projektet undersøger forekomsten af autoimmune antistoffer rettet mod interferoner iblandt patienter med herpes simplex hjernebetændelse. Der er analyseret blodprøver og spinalvæske fra patienter til at dokumentere forekomsten og den funktionelle betydning af sådanne antistoffer. Hypotesen er at der i forbindelse med en hjerneinfektion kan påvises at antistofferne har lukket ned for en del af interferonerne og derfor en vigtig del af det antivirale immunforsvar.

Projektet er et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Morten Kelder Skouboe, der forsvarer det d. 17/05-2024.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 17/05-2024 kl. 14 i Merete Barker Auditoriet (1253-211), Søauditorierne, Aarhus Universitet, Bartholins Allé 3, 8000 Aarhus C. Titlen på projektet er "Type I interferon defects in viral infections of the central nervous system".

Yderligere oplysninger:

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Department of Infectious Disease, St Mary's Medical School, Norfolk Place W2 1PG London, Storbritannien.

Press release (English)  
PhD Defense: Morten Kelder Skouboe

This PhD project has focused on a branch of the antiviral immune defense called interferons in patients with severe brain infections caused by live attenuated vaccines or herpes simplex virus. The first part of the project is about a newly discovered genetic variant in the interferon receptor which, in rare cases, underlies a high risk of severe disease after vaccination with live attenuated vaccines, including the measles-mumps-rubella vaccine, as well as respiratory infections such as influenza or coronavirus. The variant is prevalent among Arctic peoples, including the Greenlandic and Alaskan native populations.

The second part of the project investigates the prevalence of autoimmune antibodies targeting interferons among patients with herpes simplex brain infections. To that end, blood samples and cerebrospinal fluid have been analyzed to document the prevalence and functional importance of such antibodies. The underlying hypothesis is that, during an episode of herpes brain infection, antibodies are present and shut down a part of the interferon system, causing a lack of antiviral immune defense. The project was carried out by Morten Kelder Skouboe, who is defending his dissertation on 17/05-2024.

The defense is public and takes place on 17/05-2024 at 14.00 in the Merete Barker Auditoriet (1253-211), Søauditorierne, Aarhus Universitet, Bartholins Allé 3, 8000 Aarhus C. The title of the project is "Type I interferon defects in viral infections of the central nervous system".

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