

## Press release

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### Basic information

Name: Marie Høst Pahun      Email: [mariehp@clin.au.dk](mailto:mariehp@clin.au.dk) Phone: +4561662616

Department of: Clinical Medicine

Main supervisor: Ole Schmeltz Søgaard

Title of dissertation: Broadly neutralizing antibodies in HIV-1 clinical trials

Date for defence: 2. oktober 2024 at (time of day): 14.00 Place: Bartholin 1 (1241-135), Aarhus University, Wilhelm Meyers allé 4, Aarhus

Press release (Danish)

### Bredt neutraliserende antistoffer i HIV-1 kliniske studier

Et nyt ph.d.-projekt fra Aarhus Universitet, Health sætter fokus på brugen af bredt neutraliserende anti-HIV-1 antistoffer i kliniske studier. Projektet er gennemført af Marie Høst Pahun, der forsvarede det d. 02/10-2024.

Bredt neutraliserende antistoffer (bNAbs) bruges i kliniske studier der søger at mindske det virale HIV-1 reservoir i personer med HIV-1. bNAbs har vist både at kunne neutralisere frie viruspartikler og aktivere immunsystemet og dermed øge presset på HIV-1 inficerede celler. Da HIV-1 muterer meget har bNAbs ikke effekt i alle personer med HIV-1, hvilket gør det vigtigt at kunne screene deltageres virus inden inklusion i et studie med bNAbs.

I dette ph.d.-projekt præsenteres et publiceret klinisk studie hvor personer med HIV-1 blev randomiseret til at modtage to forskellige bNAbs samt et stof (lefitolimod) der har vist at kunne reaktivere virus i HIV-1 inficerede celler. Deltagerne stoppede deres normale antivirale behandling og studiet viste at for deltagere der modtog bNAbs gik der længere tid før virus igen var måleligt i blodet end for deltagere der ikke modtog bNAbs. Derudover præsenteres et studie hvor metoder, til at screene deltager-specifik HIV-1 for sensitivitet overfor bNAbs, sammenlignes. Her ses det at der kan være forskel på hvilken metode man bruger til bestemmelse af sensitivitet overfor bNAbs.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 02/10 kl. 14 i Bartholin 1 (1241-135), Aarhus Universitet, Wilhelm Meyers allé 4, Aarhus. Titlen på projektet er "Broadly neutralizing antibodies in HIV-1 clinical trials". Yderligere oplysninger: Ph.d.-studerende Marie Høst Pahun, e-mail: [mariehp@clin.au.dk](mailto:mariehp@clin.au.dk), tlf. 61662616.

Bedømmelsesudvalg:

Associate Professor Søren E. Degn (Chairman and moderator of the defence)  
Department of Biomedicine, Aarhus University, Aarhus, Denmark

Professor Michael R. Betts

Department of Microbiology, University of Pennsylvania, Philadelphia, United States

Group Leader Frauke Mücksch

Department of Infectious Diseases, Heidelberg, Germany

Press release (English)

## Broadly neutralizing antibodies in HIV-1 clinical trials

A new PhD project from Aarhus University, Health The project was carried out by Marie Høst Pahas, who is defending her dissertation on 02/10.

Broadly neutralizing antibodies (bNAbs) are being used in clinical studies which seeks to lower the viral reservoir in persons living with HIV-1. bNAbs have shown to be able to neutralize cell-free virusparticles and activate the immune system and thereby increase the pressure on HIV-1 infected cells. Due to a high mutation rate in HIV-1, the bNAbs do not have an effect in all persons living with HIV-1, which makes it important to screen virus from the participants prior to inclusion in a study using bNAbs.

In this PhD project a published clinical study is presented, in which persons with HIV-1 were randomised to receive two bNAbs and a drug (Lefitolimod), which have shown to reactivate virus in HIV-1 infected cells. The participants stopped their normal antiviral treatment and the study showed that participants who received the bNAbs had longer time before virus was detectable in the blood, than participants who did not receive the bNAbs.

Additionally, a study in which methods to screen participant-specific HIV-1 for sensitivity toward the bNAbs were compared. The study showed that there can be differences in the methods which are being used for sensitivity assessment for the bNAbs.

The defence is public and takes place on 02/10 at Bartholin 1 (1241-135), Aarhus Universitet, Wilhelm Meyers allé 4, Aarhus. The title of the project is "Broadly neutralizing antibodies in HIV-1 clinical trials". For more information, please contact PhD student Marie Høst Pahas, email: [mariehp@clin.au.dk](mailto:mariehp@clin.au.dk), Phone +45 6166 2616.

### Assessment committee:

Associate Professor Søren E. Degn (Chairman and moderator of the defence)  
Department of Biomedicine, Aarhus University, Aarhus, Denmark

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