

Press release

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Basic information

Name: Amin Zakeri

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Department of: Clinical Medicine

Main supervisor: Peter Nejsum

Title of dissertation: Helminths modify immune responses via modulation of host-derived extracellular vesicles

Date for defence: 1-10-2021 at (time of day): 9:00 Place: Aarhus University, building 1613, room 135, Vennelyst boulevard

Press release (Danish)

Helminter modificerer immunrespons via ændringer i værtens ekstracellulære vesikler.

Inflammation, en tilstand skabt af vores immunsystem, opstår som respons på infektioner, vævsskader eller toksiner. Ved et passende immunrespons clears årsagen til inflammationen hvorefter inflammationstilstanden aftager. I de senere år er incidensen af autoimmune sygdomme øget kraftigt. Det er en tilstand hvor immunforsvaret fejlagtigt angriber kroppens egne celler og forårsager kronisk inflammation og nødvendigheden for at opdage nye behandlingsformer hertil er kritisk. Parasitiske orme (helminter) er potente regulatorer af vores immunforsvar og kan reducere inflammation på forskellig vis. Det er for nyligt blevet beskrevet at immunsystemet kommunikerer internt ved at udskille små partikler, kendt som ekstracellulære vesikler (EVer), som bliver optaget og ændrer fænotypen af modtager cellen. I dette PhD projekt er det blevet vist at helminter kan stimulere immunceller til at udskille antiinflammatoriske EVer. Denne viden åbner op for en ny forståelse af hvordan immunceller kommunikerer sammen samt giver håb for nye terapeutiske muligheder for behandling af patienter med inflammatoriske tilstande i fremtiden.

Projektet er gennemført af Amin Zakeri, der forsvare det d. 10/2021

Pressemeddelelsen - afsluttes med: Forsvaret af ph.d.-projektet er offentligt og finder sted den 10/2021 kl. 9:00 i, building 1613, room 135, the dentist school auditorium, Aarhus Universitet, Vejnavn, By. Titlen på projektet er "Helminths ændrer immunrespons via modulering af værtsafledte ekstracellulære vesikler". Yderligere oplysninger: Ph.d.-studerende Amin Zakeri, e-mail: Amin.Zakeri@clin.au.dk, tlf. +4550234774.

Bedømmelsesudvalg:

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Press release (English)

Helminths modify immune responses via modulation of host-derived extracellular vesicles.

Inflammation is a process in which our immune system responds to harmful agents, like infections, injuries, and toxins. After an appropriate immune response, the insult is successfully cleared. However, the immune system may also erroneously attack the body's own healthy cells and thereby causing inflammation, a condition which is rapidly increasing in recent decades. There is, therefore, an urgent need to identify novel ways to control inflammation in these patients. Parasitic worms (helminths) are strong regulator of our immune system and can reduce inflammation in various ways. It has recently been shown that immune cells communicate with each other by releasing tiny particles known as extracellular vesicle (EVs) that transfer small molecules and deliver messages to recipient cells. In this PhD project, it was shown that helminths could stimulate immune cells to release EVs to reduce inflammatory responses in other immune cells. This new knowledge opens up for a new understanding on how immune cells communicate with each other, and it is the hope that it will pave the way for new therapeutic approaches for patients with inflammatory conditions in the future.

The project was carried out by Amin Zakeri, who is defending his dissertation on 1/10/2021.

The defence is public and takes place on 1/10/2021 at 9:00 in building 1613, room 135, Vennelyst boulevard, Aarhus University, Aarhus C. The title of the project is "Helminths modify immune responses via modulation of host-derived extracellular vesicles". For more information, please contact PhD student Amin Zakeri, email: Amin.zakeri@clin.au.dk, Phone +45 50234774

Assessment committee:

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