

MEMBRANES Seminar with Dr. Antoine de Morree

Dear Colleagues,

This is an invitation to a MEMBRANES Seminar with Dr. Antoine de Morree, Stanford Univ. School of Medicine.

Talk title Post-transcriptional control of muscle stem cell function
Time Monday February 3rd, 1.15-2.15pm
Place Eduard Biermann Auditoriet (Building 1252, room 204, søauditorierne, AU)
Host Head of the Department of Biomedicine, Thomas G. Jensen, AU

Abstract. Tissue regeneration depends on the timely activation of adult stem cells. In skeletal muscle, adult muscle stem cells exist in a reversible state of prolonged exit from the cell cycle, also known as quiescence. Upon injury, these cells activate and enter the cell cycle to expand and make new muscle tissue. While the quiescent state is absolutely key to muscle stem cell function, little is known about how it is regulated. A major challenge has been the lack of tools to analyze quiescent stem cells in vivo, in their niche. We used muscle stem cell-specific labeling of RNA to investigate the transcriptome of quiescent muscle stem cells in vivo. This new approach revealed the expression of differentiation genes for which the protein remained undetectable, indicating the importance of post-transcriptional regulation in muscle stem cell function. I identified the RNA-binding protein Staufen1 and the microRNA 206 as translational repressors important for maintaining quiescence. I will discuss two mechanisms of post-transcriptional control of muscle stem cell function and fate.

Bio. Antoine de Morree is an Instructor at Stanford Univ. School of Medicine. His main research interest is to understand how muscle regenerates with the goal of improving regeneration in muscle disease. Antoine de Morree received his PhD from Leiden Univ. Medical Center, The Netherlands in 2011, and completed his postdoc at Stanford University in 2018. His work has been published in Science, Nature, and PNAS, and has led to major awards, including the 2015 Development Grant from the Muscular Dystrophy Association and a leadership award from Stanford Univ.

On behalf of the organizers,
Søren Brandt Poulsen
Research Theme Manager
MEMBRANES

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