CCBIO seminar (BMED380)

Thursday, May 28, 14.30, at the BBB, Auditorium 4

Targeting of pericytes and tissue myofibroblasts during organ fibrogenesis

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My lab studies the cellular and molecular mechanisms that drive organ fibrosis. Myofibroblasts are the major source of extracellular matrix components that accumulate during tissue fibrosis, however, the paucity of tools for reliable inactivation of genes in myofibroblasts *in vivo* has greatly impeded progress in dissecting the molecular mechanisms driving fibrosis, thereby slowing the discovery of novel, mechanistically targeted anti-fibrotic treatments. I will describe the development of a novel strategy (Pdgfrb-Cre) to genetically manipulate myofibroblasts in the liver and other organs, and discuss the use of transgenic fluorescent reporter mice and cell sorting to fully characterise this system. Using this strategy we identified a key role for myofibroblast αv integrins in the regulation of fibrosis and then validated our approach by using a small molecule to target αv integrins, thereby identifying a novel and targeted approach to treat fibrosis. Furthermore, we have recently started to investigate in greater depth the role of myofibroblasts in the liver tumour microenvironment using a broad range of approaches. Towards the end of my talk I will discuss some of the cutting-edge imaging modalities, such as multiphoton microscopy that we are currently employing to further study cellular and molecular mechanisms of fibrogenesis and tumourigenesis *in vivo*.

Chairperson: Donald Gullberg <donald.gullberg@uib.no>, CCBIO

NB! After the seminar, CCBIO is pleased to invite you to a pizza get-together outside the auditorium. Everybody is welcome!