



CDB SEMINAR

C. Florian Bentzinger

Nestlé Institute of Health Sciences, Campus EPFL, Lausanne, Switzerland

Thursday, December 17, 2015

14:00~15:00 A7F Seminar Room

Extrinsic Regulation of Muscle Stem Cell Function

Summary

Stem cells in adult tissues are controlled by intrinsic programming and extrinsic signals provided by the surrounding microenvironment, often referred to as the niche. Particularly, stem cells that maintain and repair skeletal muscle tissue are strongly dependent on extrinsic regulation. Fundamental properties of these cells, such as quiescence, self-renewal and the ability to differentiate, are largely determined by the composition of the niche. Diseases of the musculature lead to changes in the niche that negatively affect stem cell function. Importantly, alterations in the stem cell microenvironment also underlie the impaired regenerative capacity of muscle tissue that accompanies aging and certain multisystemic conditions. In spite of the importance of the muscle stem cell niche, its architecture and the regulatory signals it generates remain poorly understood. We recently started to systematically analyze the composition of the muscle stem cell niche and provide examples of how these insights can be exploited for therapeutic applications.

Host:

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