Biological Colloquium

Myeloid zinc finger 1 as a mediator of the double-edged sword effect of glucocorticoids on osteoblast differentiation.

Assistant Professor
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10:00 Uhr - H15

The differentiation of bone marrow MSCs to adipocytes and osteoblasts is governed by distinct transcriptional networks which are generally regarded mutually exclusive. Intriguingly, glucocorticoids are in combination with other stimulants widely used to promote both osteoblast and adipocyte differentiation of human bone marrow derived stromal cells in vitro. Using gene expression and ChIP-seq based GR-chromatin association data, we identified the transcription factor myeloid zinc finger 1 (MZF1) as an endogenous inhibitor of osteoblast function that acts as a rheostat for the low dose promoting and high dose inhibiting effects of glucocorticoids on human osteoblast differentiation.

Alexander Rauch is a Molecular Biologist by training with a passion for hormonal gene regulation and bone biology. He obtained his PhD from the University of Jena working in the group of Jan Tuckermann in 2011 and moved on for a post doc in the group of Susanne Mandrup at the University of Southern Denmark. After 6 years in Susanne's group he switched departments to establish his own group in the Molecular Endocrinology and Stem Cell Research Unit at the Odense University Hospital. Together with Moustapha Kassem and Morten Frost they combine clinical endocrinology research with basic molecular and cellular approaches to study clinical relevant questions in the field of metabolic bone diseases.

Host: Prof. Dr. Jan Tuckermann – Institute of Comparative Molecular Endocrinology – Study Dean of Biology