LIMNA
Lausanne Integrative Metabolism & Nutrition Alliance

SEMINAR

Thursday August 9 , 2018 – 10h00
Conference room AI 1153 (*)- EPFL - Lausanne

Serkan KIR
Assistant Professor, Department of Molecular Biology and Genetics, Koç University, Istanbul-Turkey

"Dissecting Tumour-induced Signalling Pathways Driving Energy Wasting"

Host: Prof. Johan Auwerx

Abstract:
Nearly half of all cancer patients suffer from cachexia, a wasting syndrome associated with elevated energy expenditure and the loss of adipose and skeletal muscle tissues. With no effective therapy against it, cancer cachexia has remained a devastating problem that reduces quality of life and limits therapy. Research in my laboratory aims to dissect the molecular mechanisms behind tumour signalling to adipose and muscle tissues and identify novel molecular targets for anti-cachexia therapy. Our work demonstrated that the tumour-derived factor Parathyroid hormone-related protein (PTHrP) triggers the browning of white fat tissue and promotes protein catabolism in skeletal muscle. Circulating PTHrP correlates with a greater degree of cachexia in cancer patients and the neutralization of this factor in tumour-bearing mice blocks adipose tissue browning and energy wasting while preserving muscle mass and strength. Recently, we have also discovered that Oncostatin M (OSM), another tumour-derived factor, induces atrophy in cultured muscle cells. OSM mediates a novel tumour-induced signalling pathway which appears to target both adipose and muscle tissues. We continue addressing the importance of PTHrP and OSM signalling in the aetiology of cancer cachexia with the overarching goal of studying therapeutic blockade of these pathways, which may prevent wasting in cancer patients.

(*) IMPORTANT NOTICE: All external participants have to pass through SV Reception/Welcome Desk to be able to access to AI 1153.
Contact person to call at arrival at SV Reception Desk: Administrative Assistant: 39522.