



Seminar Announcement

Macrophages restrain pathological adipose tissue remodelling and protect vascular integrity during obesity

Date: 11 September 2020, Friday

Time: 4pm

Venue: Classroom 1, SBS

Tissue-resident macrophages in white adipose tissue (WAT) dynamically adapt to the metabolic changes of their microenvironment that are often induced by excess energy intake. Currently, the exact contribution of these macrophages in obesity-driven WAT remodeling remains controversial. Using a transgenic CD169-DTR mouse strain, we provide new insights into the interplay between CD169+ adipose tissue macrophages (ATMs), in particular the CD11c+ subpopulation, and their surrounding WAT microenvironment. Using targeted in vivo ATM ablation followed by transcriptional and metabolic WAT profiling, we found that ATMs protect WAT from the excessive pathological remodeling that occurs during obesity. As obesity progresses, ATMs control not only vascular integrity, adipocyte function, and lipid and metabolic derangements but also extracellular matrix accumulation and resultant fibrosis in the WAT. We provide new insights into the protective role of ATMs during obesity-driven WAT dysfunction and believe that ATMs represent friends, rather than foes, as has previously assumed.



Speaker:

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