BDR SEMINAR (Kobe & online hybrid)

Arndt F. Siekmann

Cardiovascular Institute, The University of Pennsylvania

Friday, August 16, 2024

10:30-11:30

1F Auditorium, DB Building C, Kobe / Broadcast online via Zoom

Zoom meeting URL will be announced on the event day by e-mail.

※This seminar is open only to BDR members.

A tale of two trees: Vascular morphogenesis uprooted

Summary

The morphogenesis of hierarchically patterned arteries and veins is crucial for the efficient transport of blood to all organs. Failure of these processes can lead to arterio-venous malformations, disrupting normal blood flow patterns. Our results show that distinct morphogenetic processes govern the formation of arteries and veins. While new veins initially sprout from a parental vessel, some of these cells subsequently differentiate into arterial cells and connect to the pre-existing arterial vasculature, thereby growing arteries from the outside in. We found that these processes depend on Notch and chemokine signaling. I will further discuss the genetic players driving differences in endothelial cell shapes and sizes between arteries and veins and the mechanisms that ensure appropriate blood vessel diameters. I will then review their implications for human disease conditions, such as hereditary hemorrhagic telangiectasia (HHT).

Host: Li-Kun Phng

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