



UNIVERSITÀ  
DI TRENTO

Dipartimento di  
Biologia Cellulare, Computazionale e Integrata - CIBIO

CIBIO  
EXTERNAL  
seminar

**20 JULY**

at 2.30v p.m.

Room A104, Povo 1

# IN SEARCH OF NORMALITY: LOOKING FOR MOLECULAR STRATEGIES TO REPAIR CANCER BLOOD VESSELS

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Defects in the adhesion of endothelial cells (ECs) to each other and to the extracellular matrix (ECM) are primarily responsible for the structural and functional abnormalities characterizing blood vessels of most solid tumors. In addition to promote tumor cell intravasation and metastatic dissemination, abnormal tumor blood vessels hinder the effective delivery of therapies and decrease the efficacy of radiotherapy and immunotherapy. The development of treatments aimed at normalizing the tumor blood vasculature is therefore needed. To this aim, it is crucial to identify the signal transduction pathways that govern the adhesion dynamics of ECs and are altered in the abnormal vasculature of tumors, to therapeutically target them.

I will describe our contributions to identifying mechanisms that control the dynamics of the adhesion of ECs to each other and to the ECM. In particular, we unveiled how a series of different secreted proteins and their receptors, originally identified for their ability to control axonal guidance, control the conformation activation, the endosomal traffic and adhesive function of integrins and VE-cadherin in cultured ECs. So far, we have identified three extracellular ligands that are at different stage of in vitro or in vivo validation to understand whether these molecules could be exploitable or not to help correcting tumor vascular abnormalities.

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