

Drug repurposing: Lenvatinib halts aortic aneurysm growth by restoring smooth muscle cell contractility

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Lenvatinib halts aortic aneurysm growth by restoring smooth muscle cell contractility

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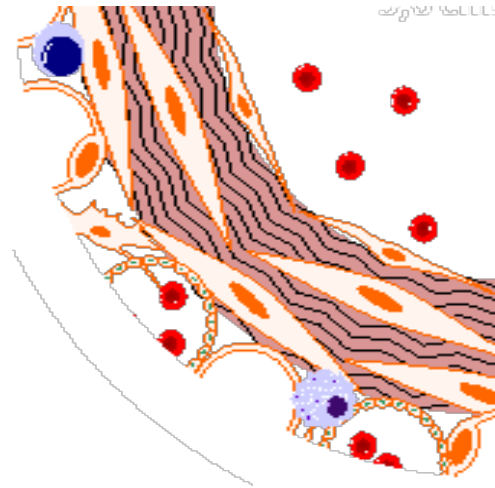
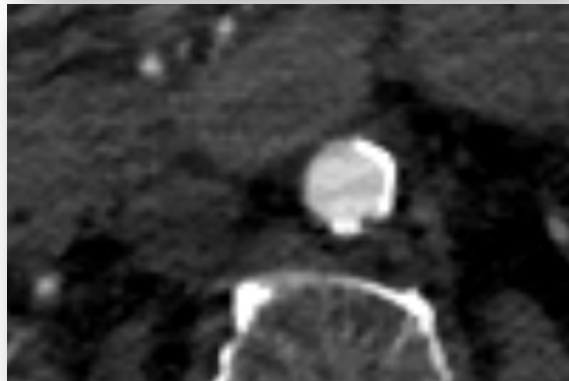
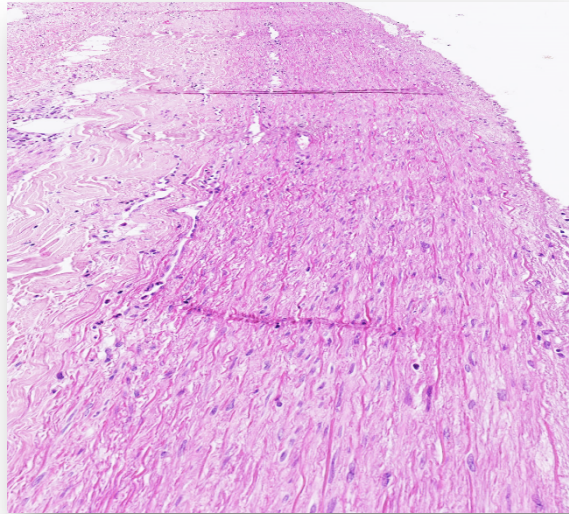
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2021;6(15):e140364.
<https://doi.org/10.1172/jci.insight.140364>.

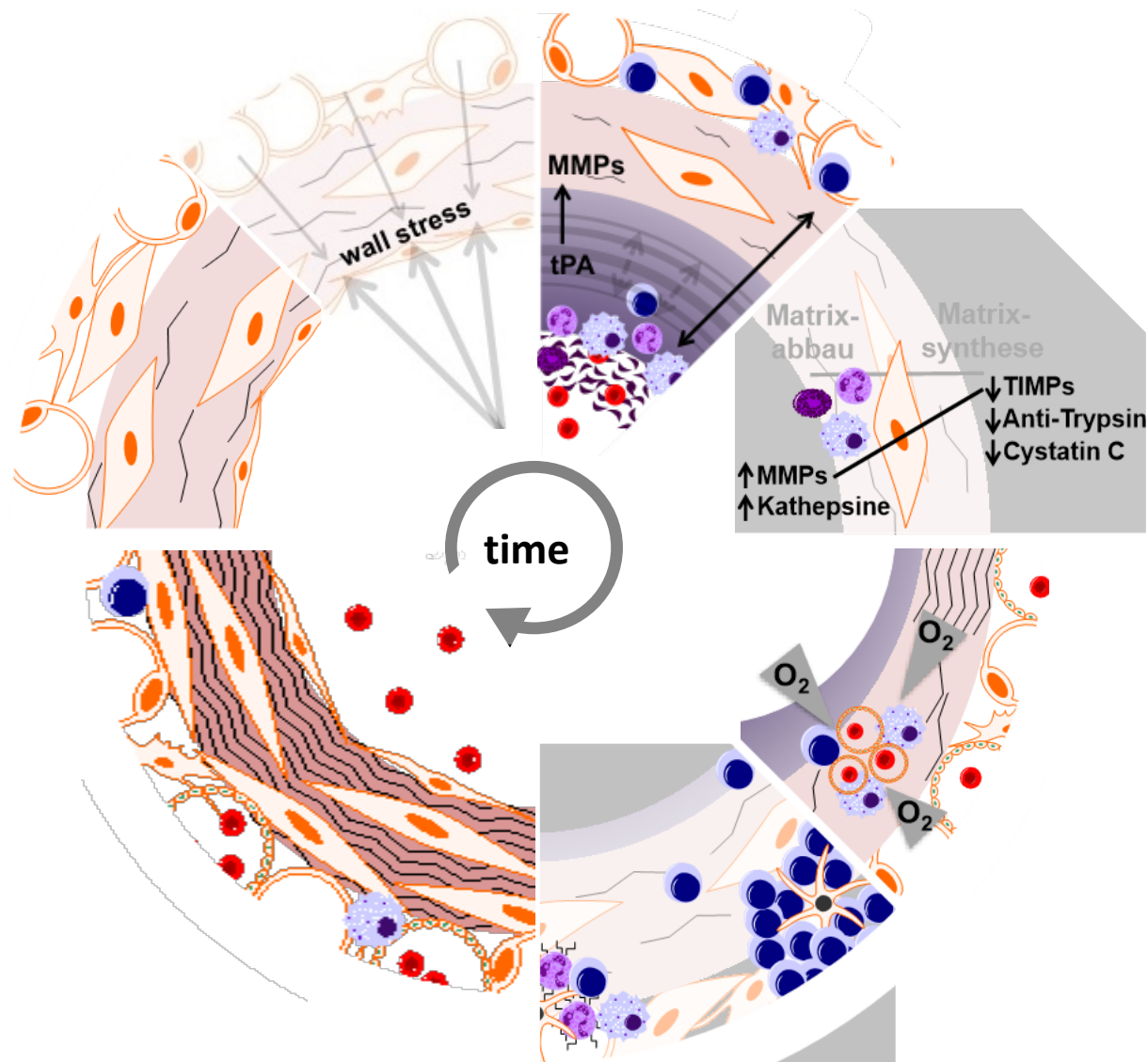
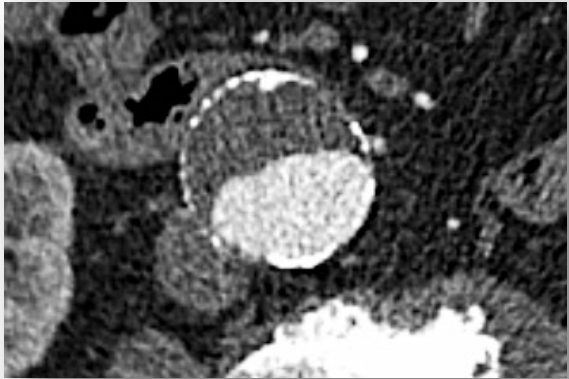
no conflict of interests

Introduction



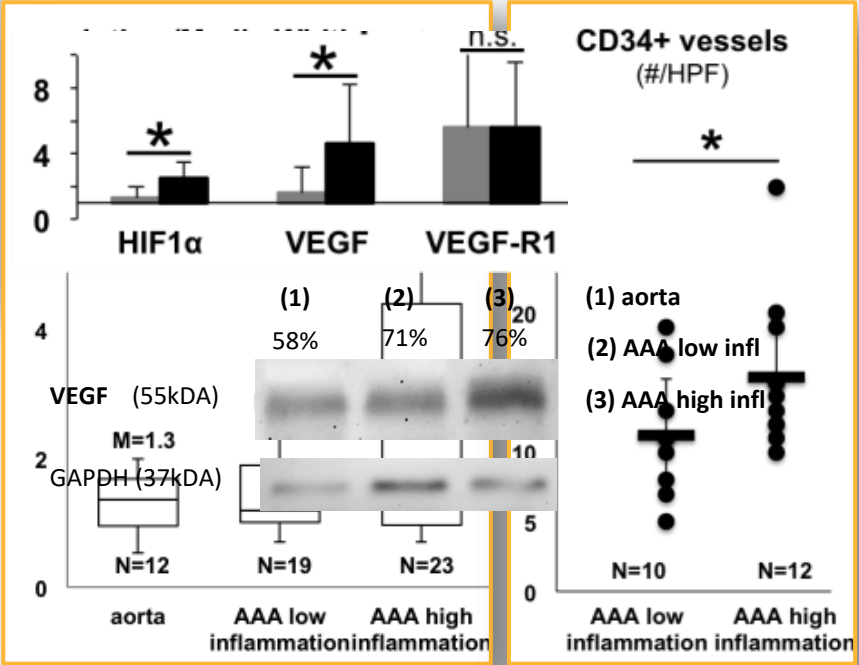
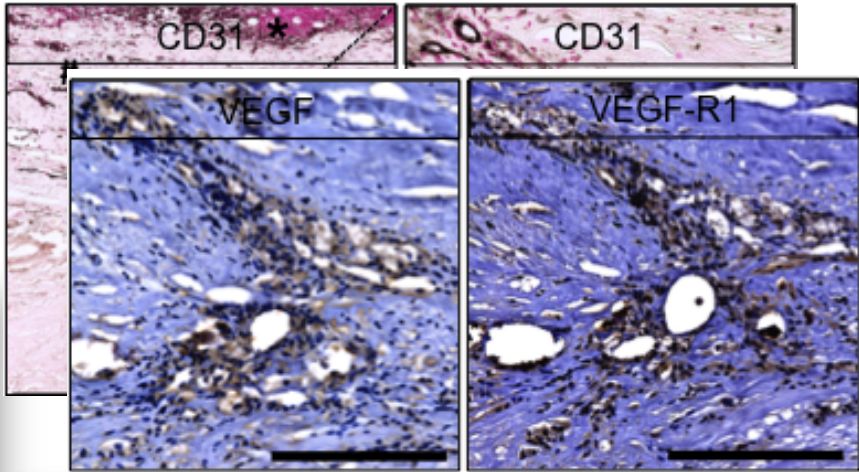
Introduction

- fibrosis
- altered hemodynamics
- intraluminal thrombus
- proteolytic imbalance
- angiogenesis
- humoral immune answer



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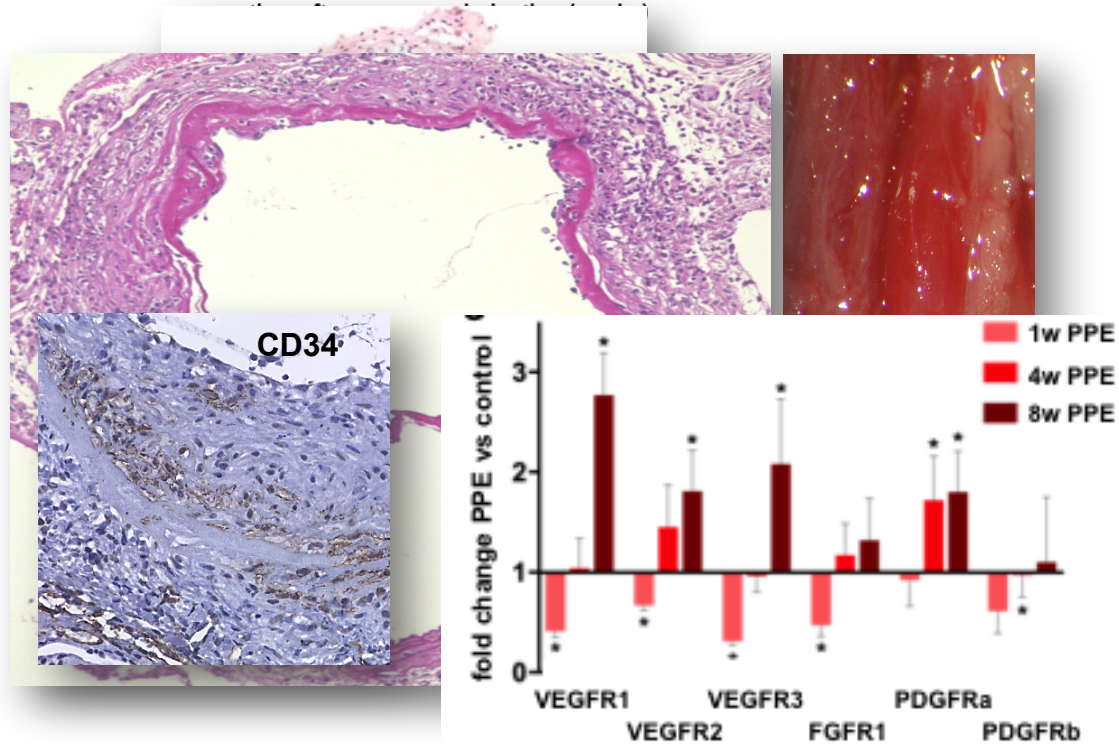
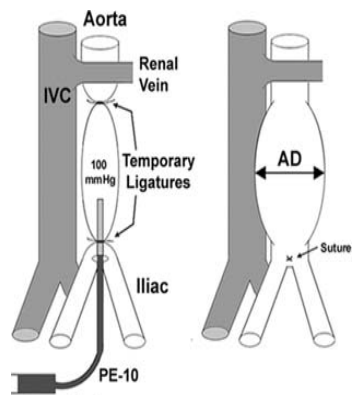
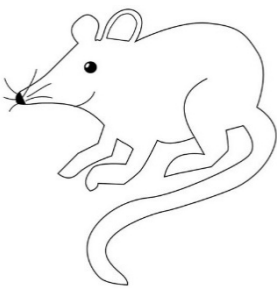
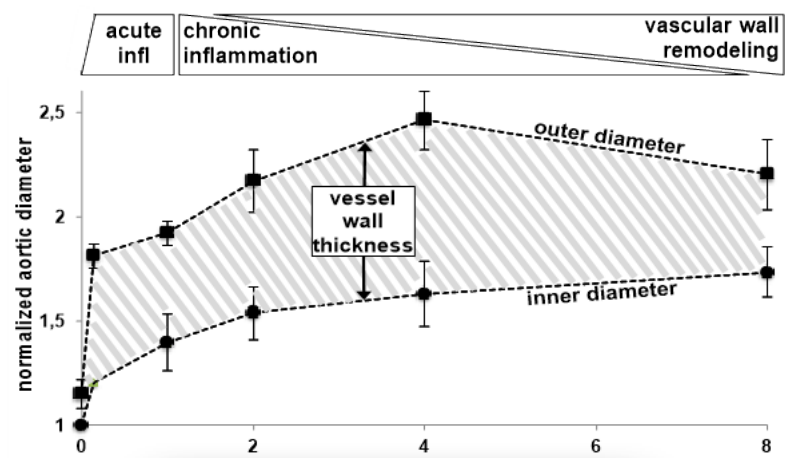
drug repurposing

repurposing of clinically available drugs for different indications

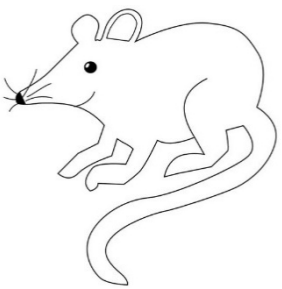


Forstner M, Busch A et al. "drug repurposing und orphan drug usage: Neue Konzepte für die Gefäßchirurgie" Gefäßchirurgie (2018)
 Busch A et al. "Heterogeneous histomorphology, yet homogeneous vascular smooth muscle cell dedifferentiation characterize human aneurysm" JVS (2017)
 Busch A et al. "Pathophysiologie des Aortenaneurysmas" Gefäßchirurgie (2018)

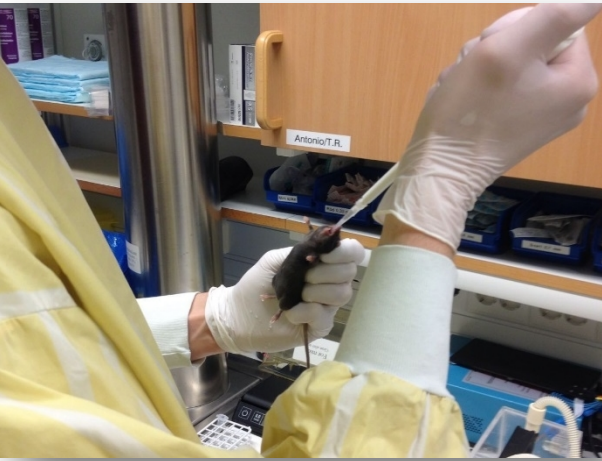
Results



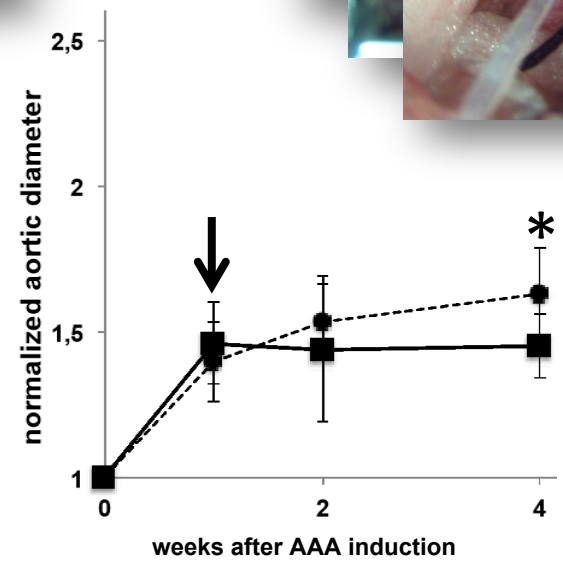
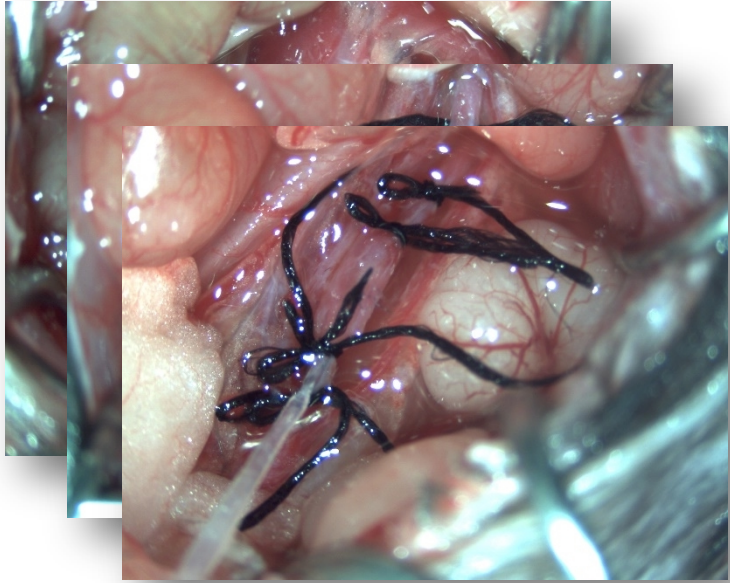
Results



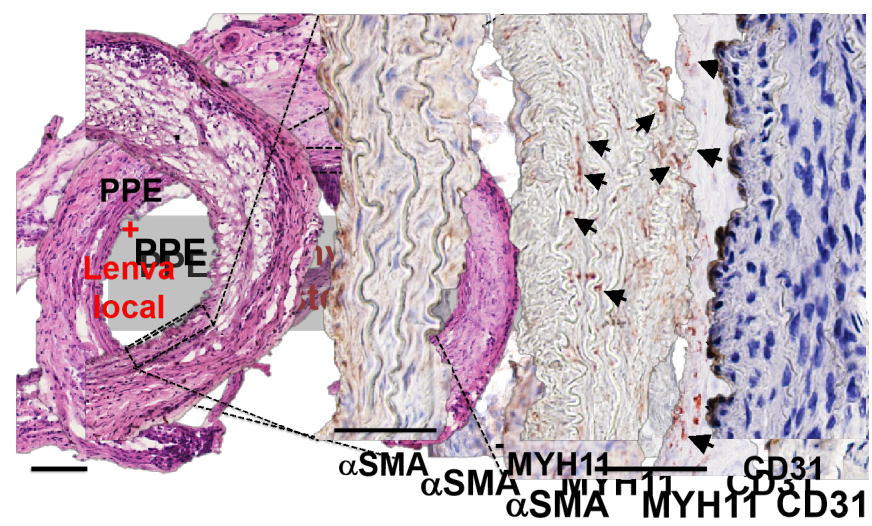
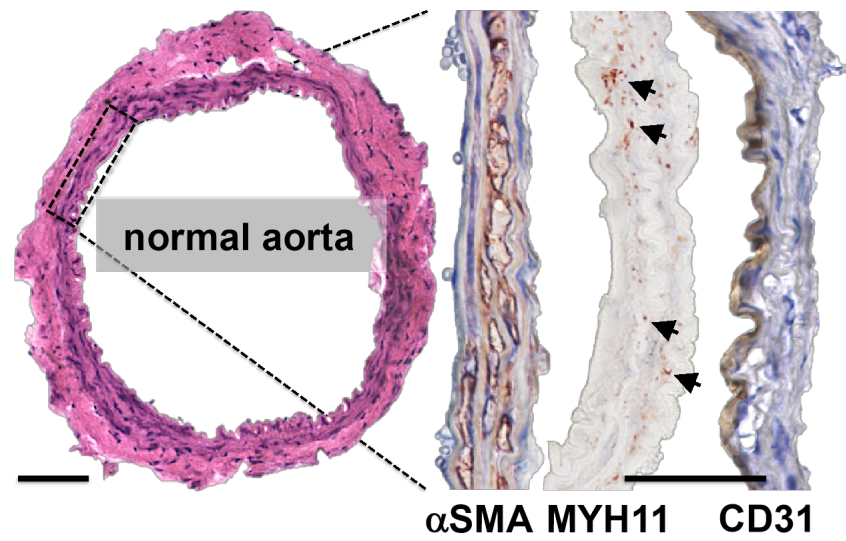
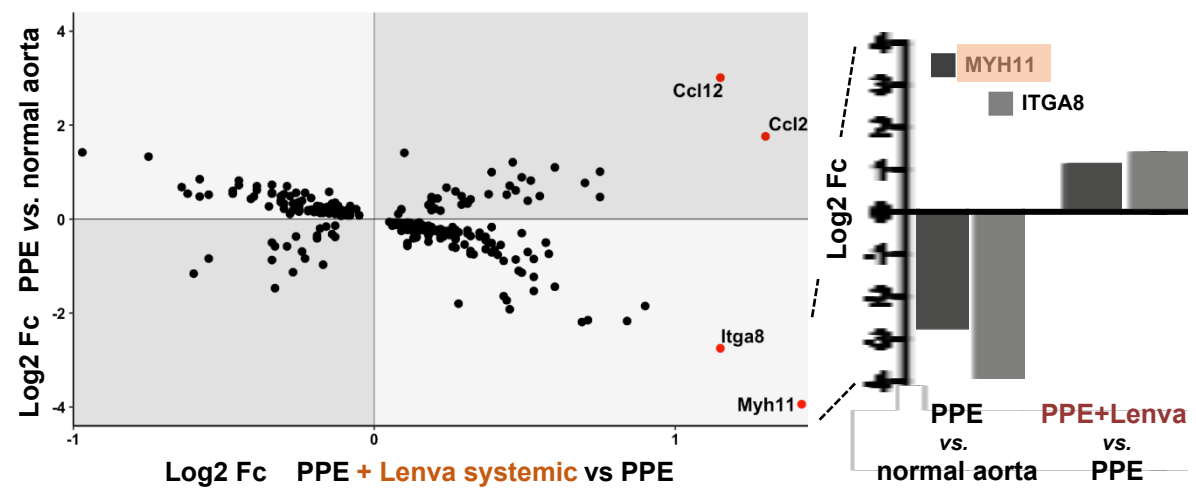
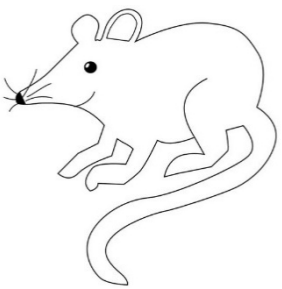
daily oral treatment from day 7



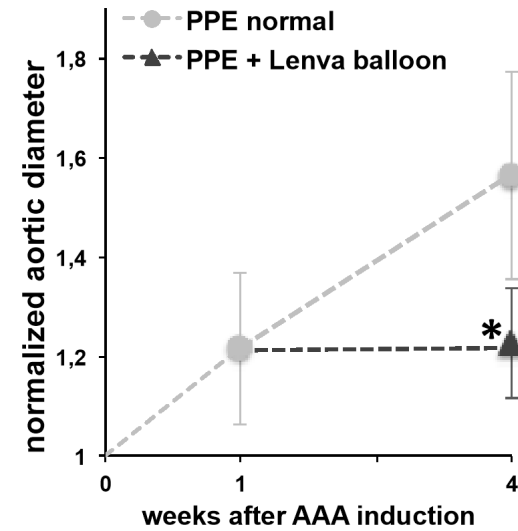
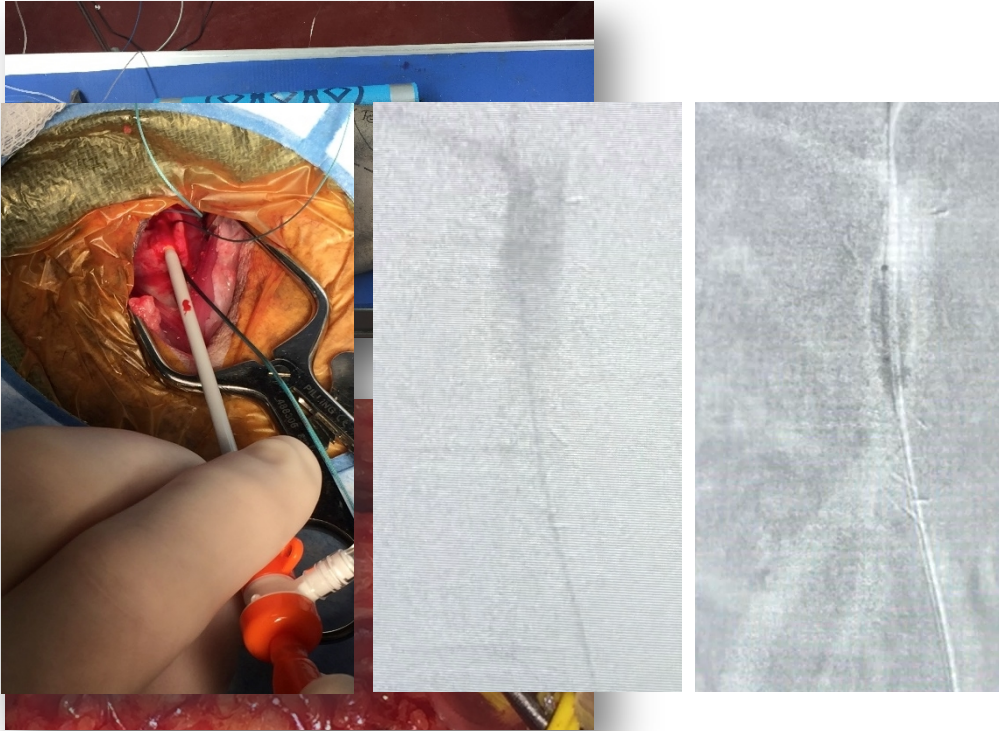
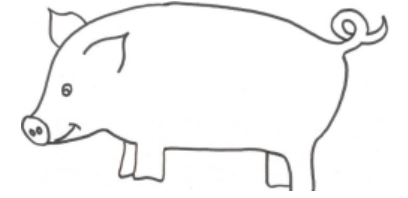
single local treatment on day 7



Results



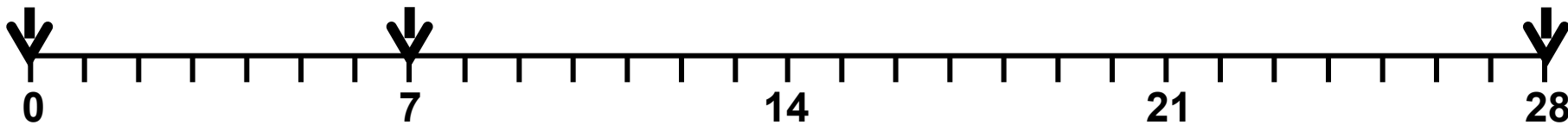
Results



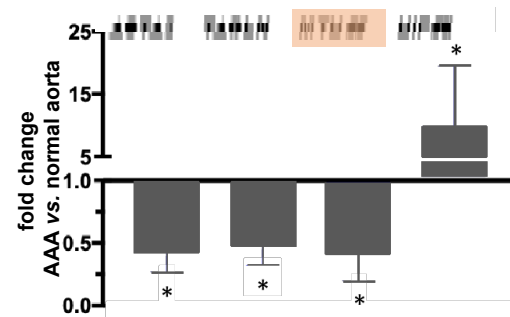
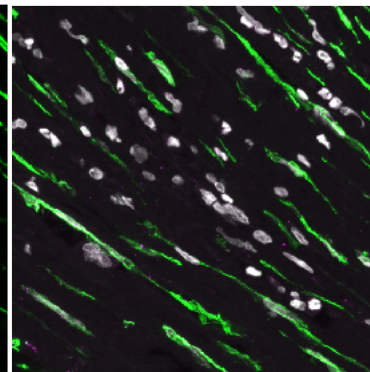
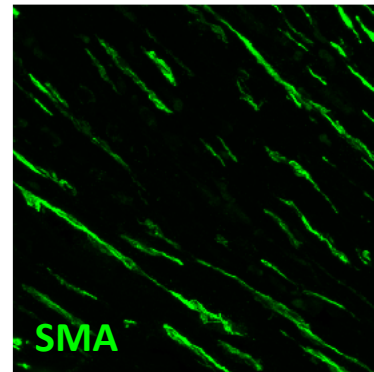
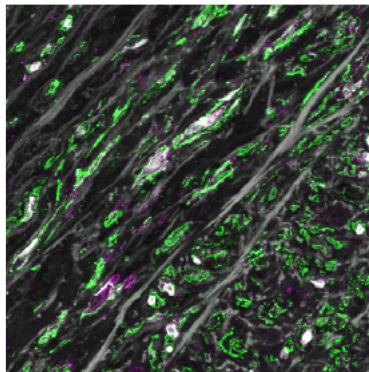
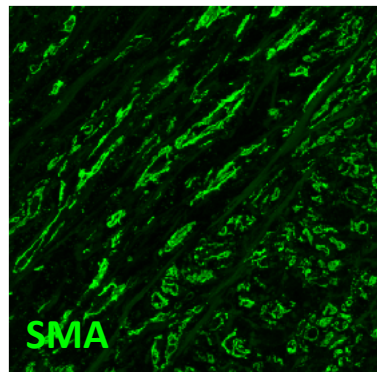
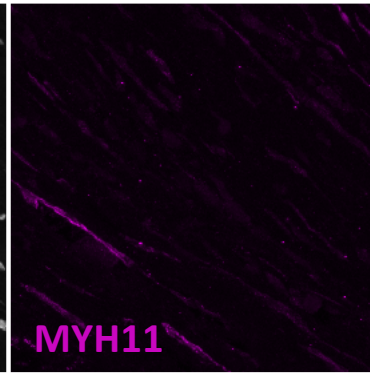
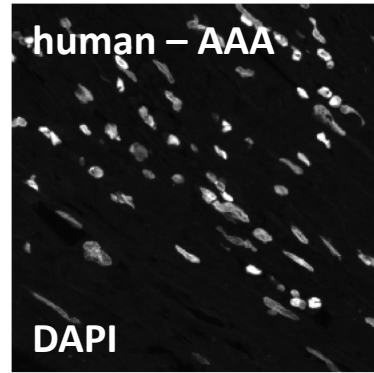
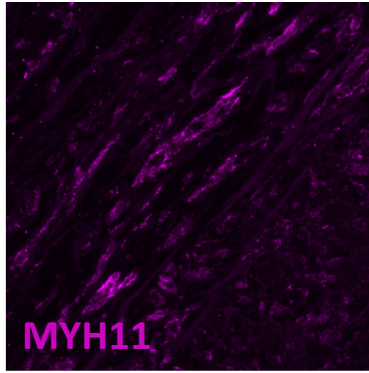
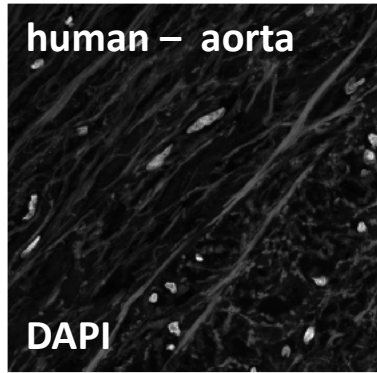
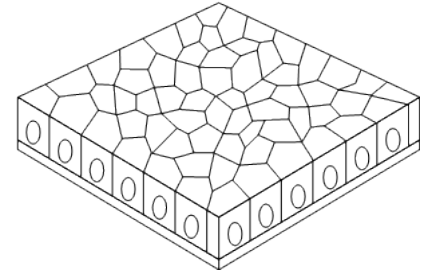
Day 0
Aneurysm
Induction

Day 7
DC Balloon
Intervention

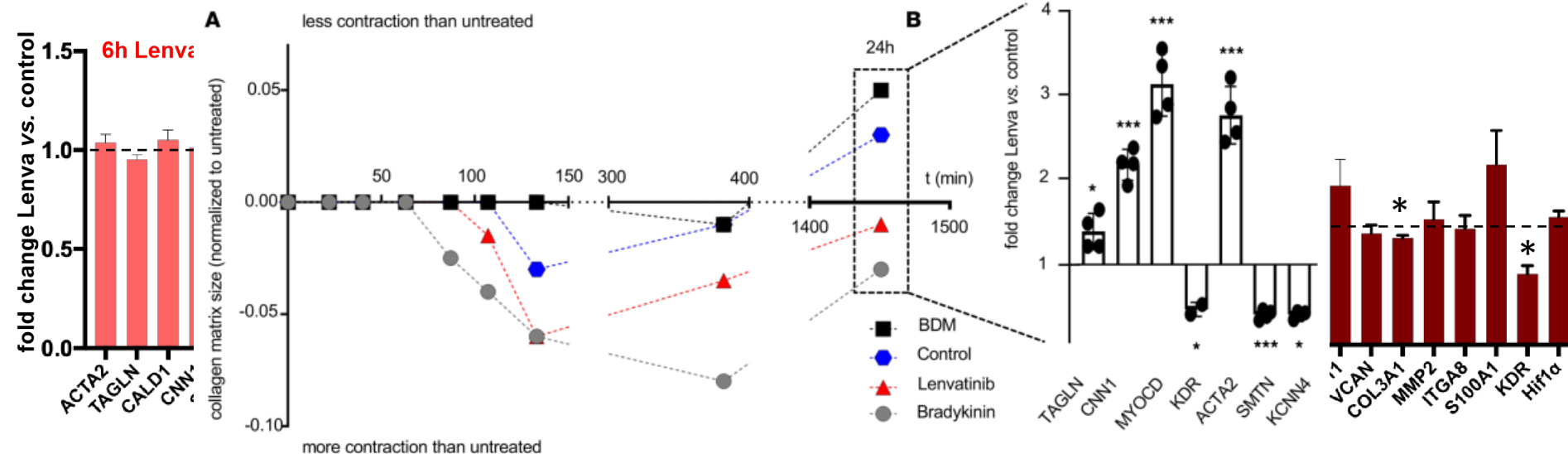
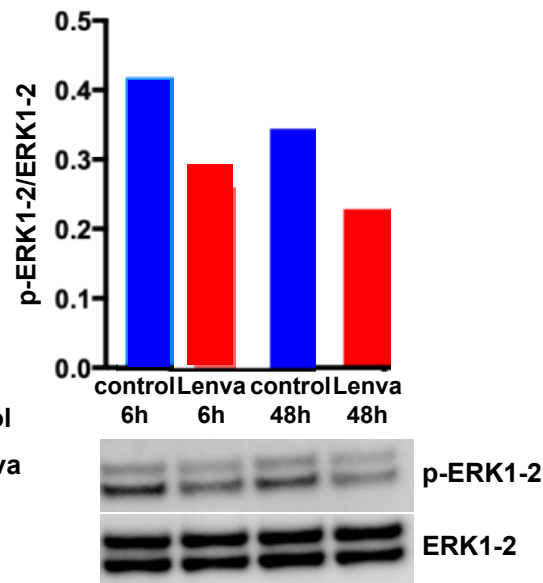
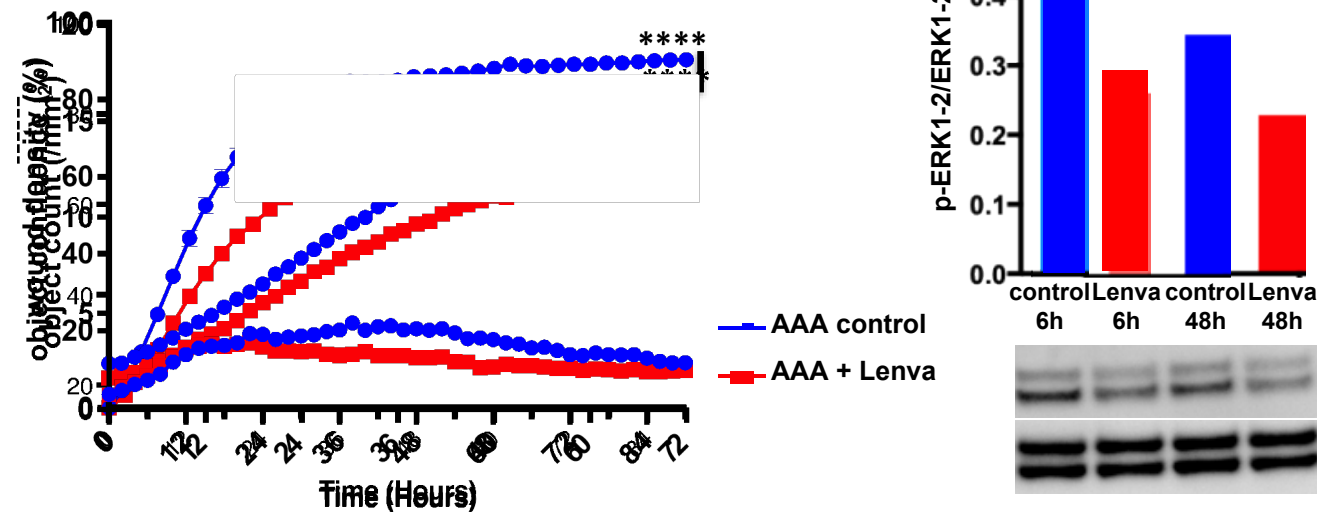
Day 28
Animal
Sacrifice



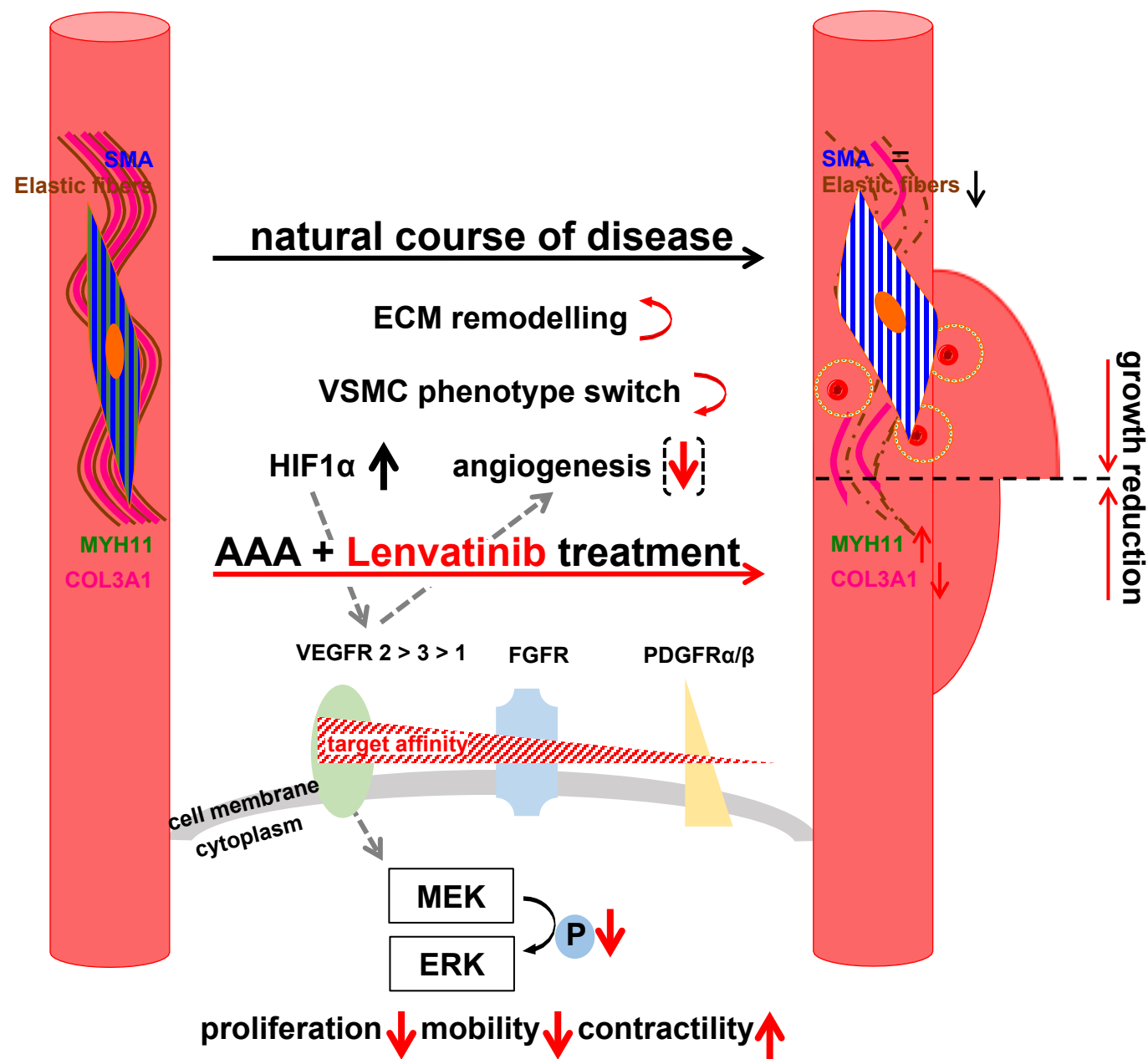
Results



Results

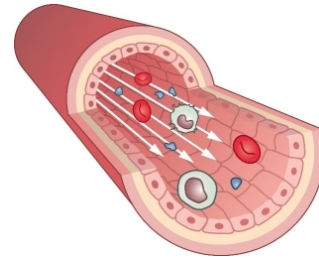


Summary

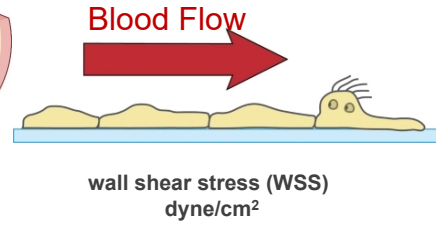


Outlook

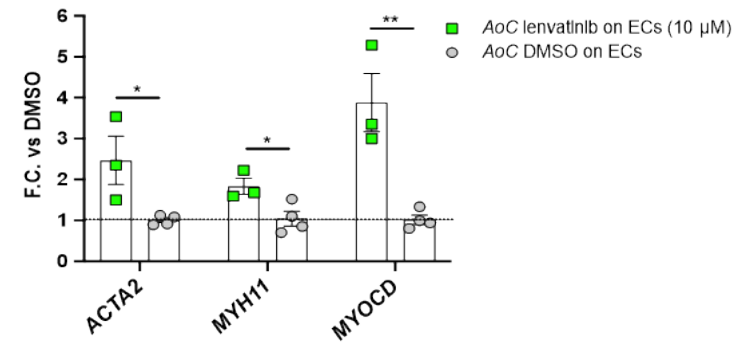
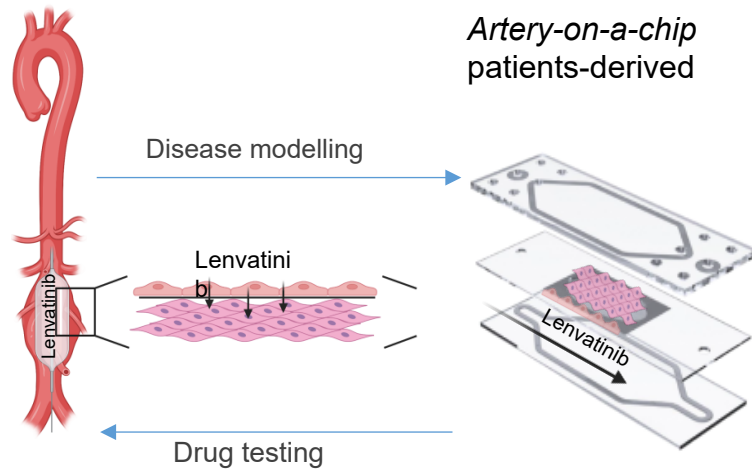
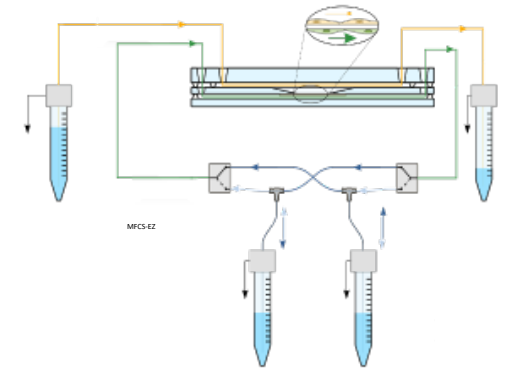
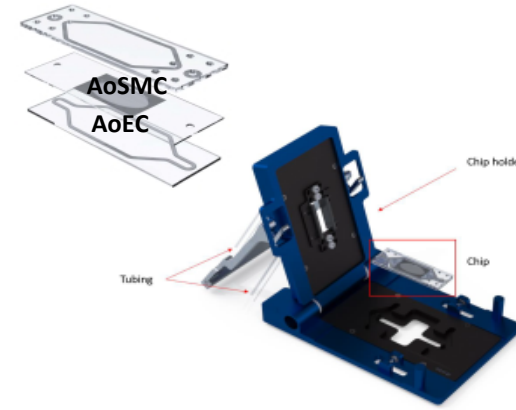
I. Architecture of the arterial wall



II. Exposure of the luminal cells to flow



III. Artery-on-a-chip as a testing model for therapeutical agents



Thank you very much for your attention !!!

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TUESDAY JUNE 21
ROOM ŒIL VERT

11:00	IMAD-ESCVS JOINED SESSION	
12:30	CARDIAC SYMPOSIUM 1 ROOM PIEDS LEGRS - p.11	
11:00	NEW INSIGHTS IN THE ABDOMINAL AORTIC ANEURYSM PATHOLOGY AAA (II)	
	Moderators: Ronald Dalman, Jan Lindeman	
11:00	Effect of telmisartan on AAA rupture risk assessed through peak wall stress in a randomised trial. Jonathan Golledge	
11:07	Multi-modal assessment for the prediction of abdominal aortic aneurysm growth. Regent Lee	
11:14	AAA and cancer: Impact of tumor and chemotherapy on AAA growth. Albert Busch	
11:21	The use of AI to predict AAA growth. Kakkhee Yeung	
11:28	Discussion	
11:45	Novel aspects in the diagnosis of aortic pathology. Lurdes del Rio	
11:52	Artificial Intelligence in AAA rupture risk assessment. Christian Gasser	
11:59	Low wall shear stress is associated with expansion and future event of abdominal aortic aneurysm. Paul Norman	
12:06	Role of mechanosensing signaling pathways during progression of aortic aneurysms. Koichi Yoshimura 	
12:13	Discussion	