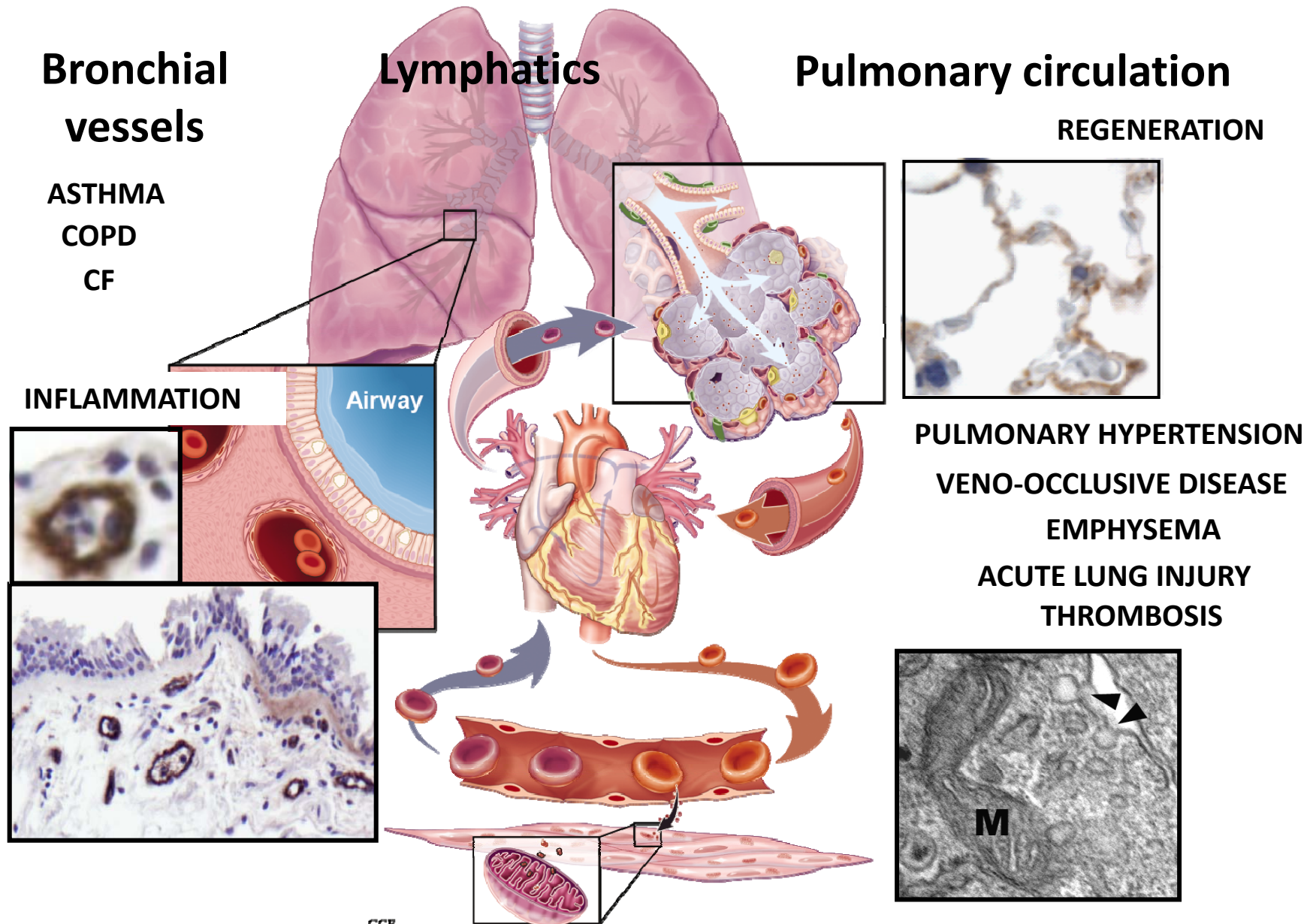


Lung Vascular Function and Disease

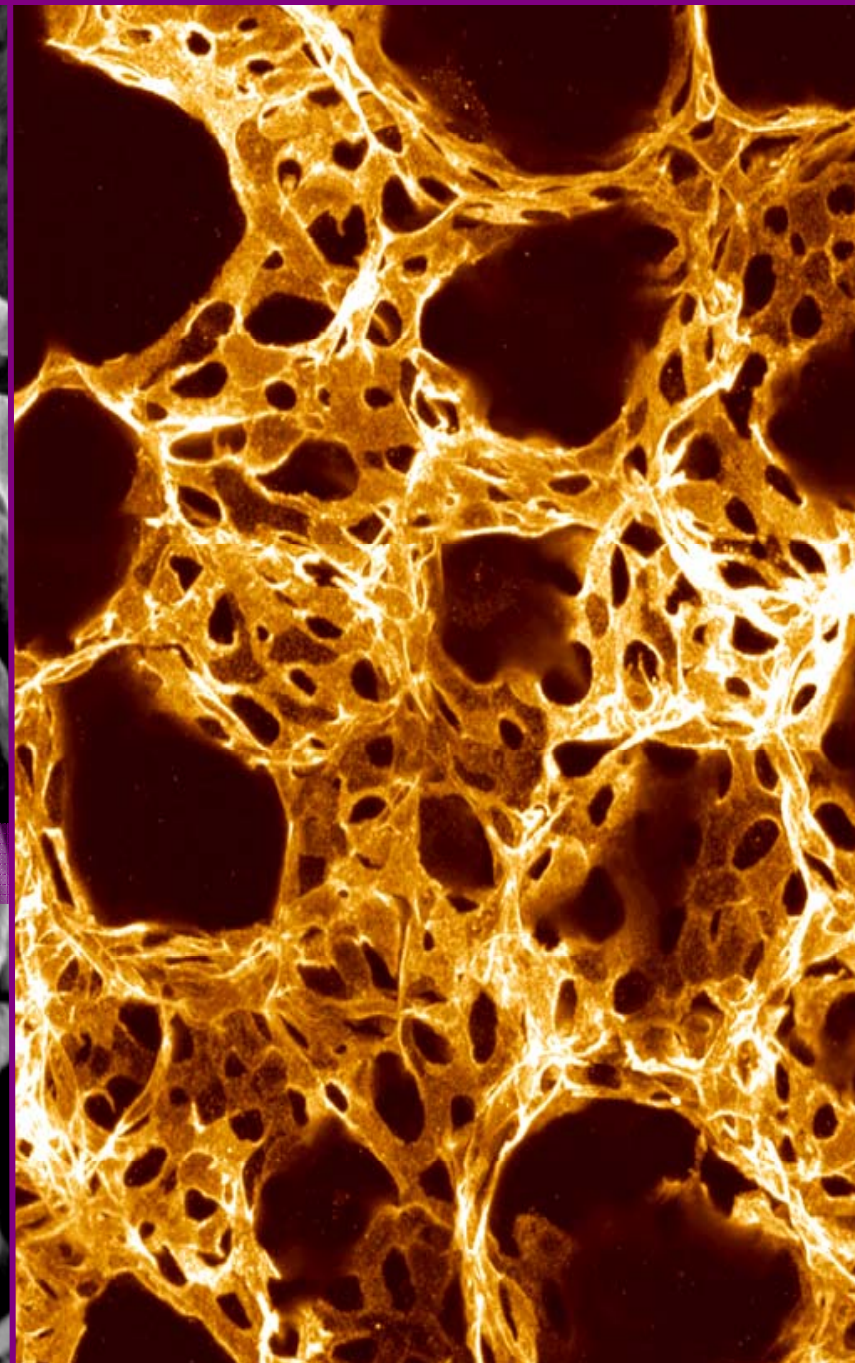
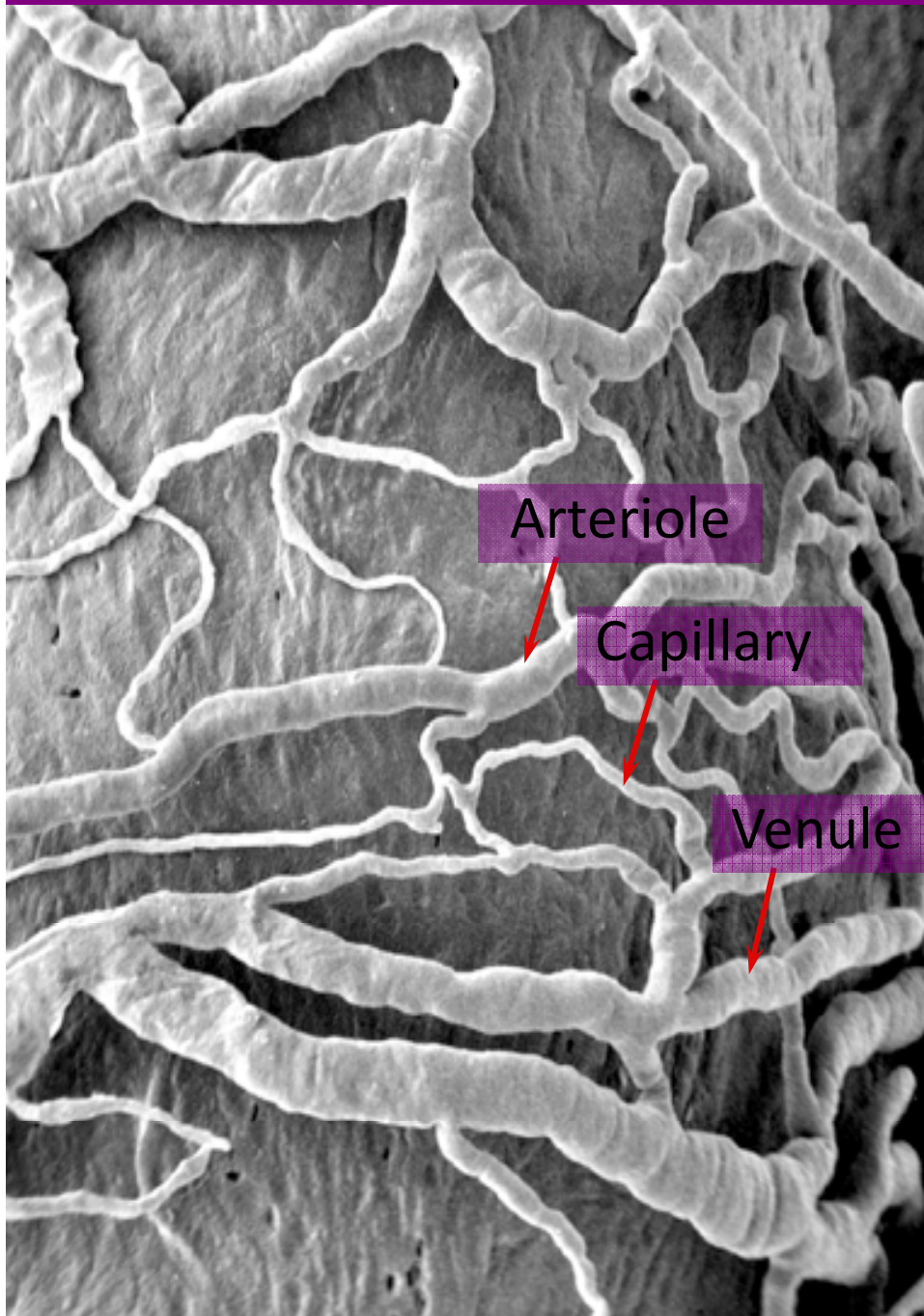
FIG S1



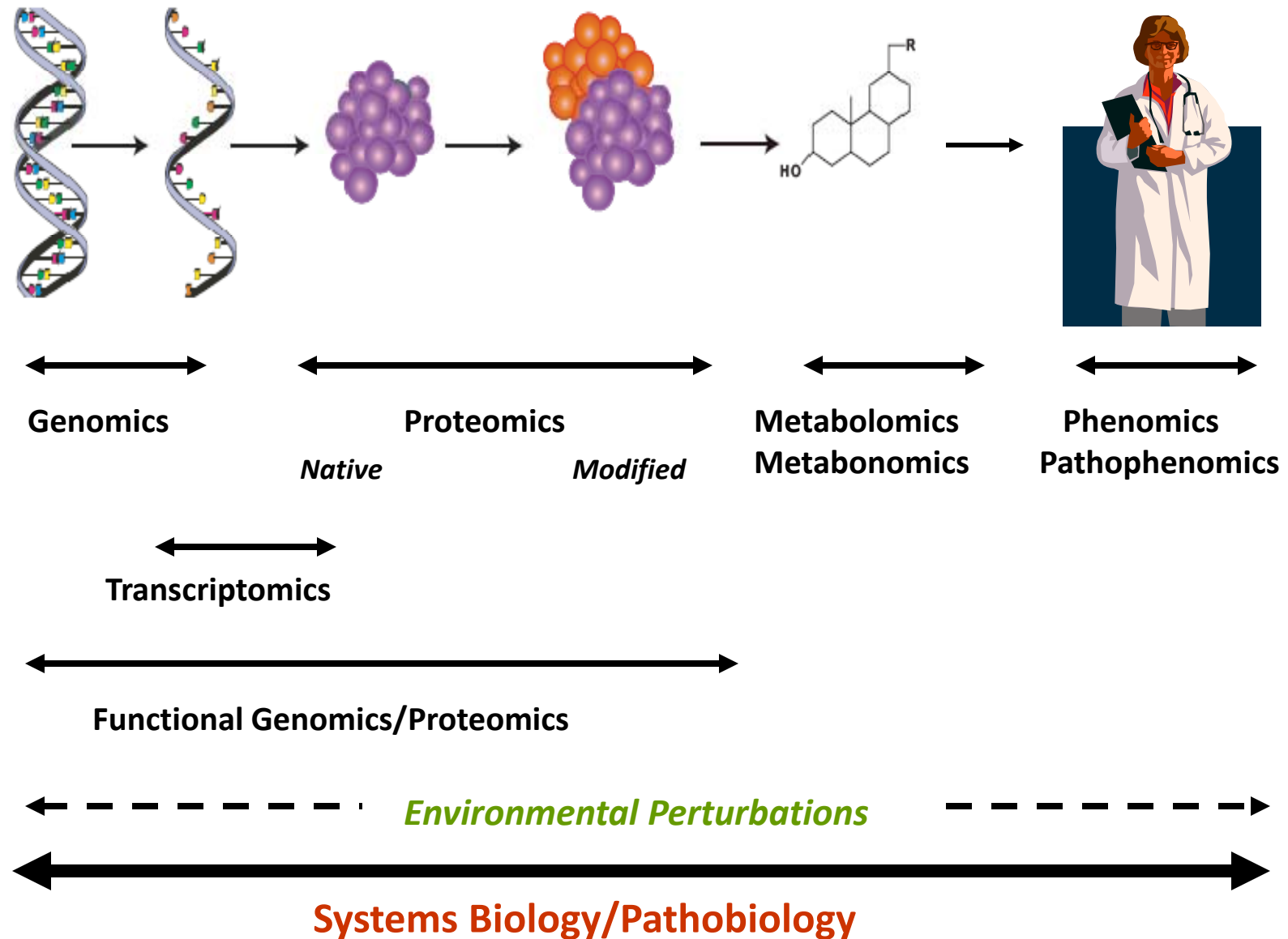
Systemic microvasculature

Lung vasculature

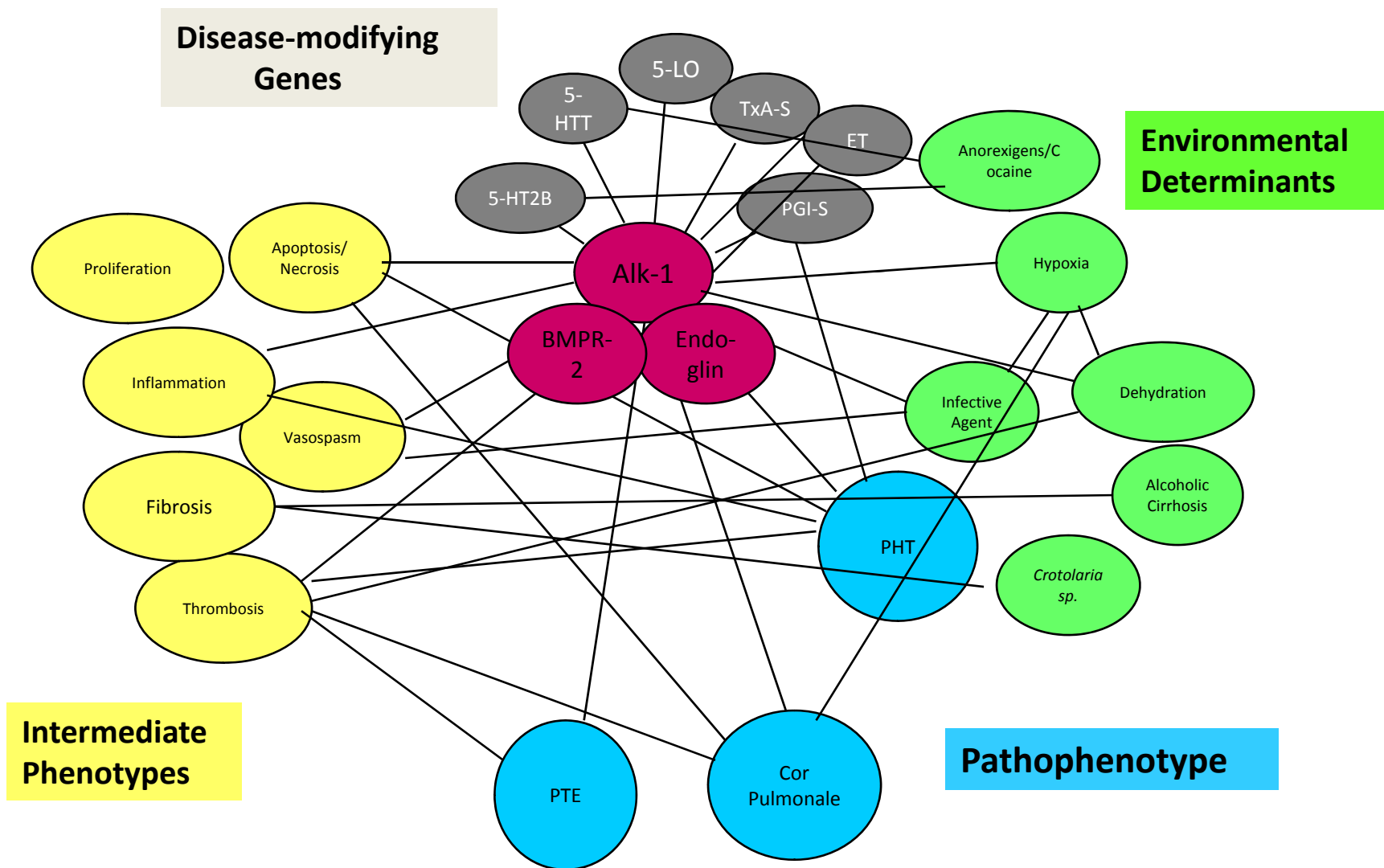
FIG S2



Systems Biology and Pathobiology

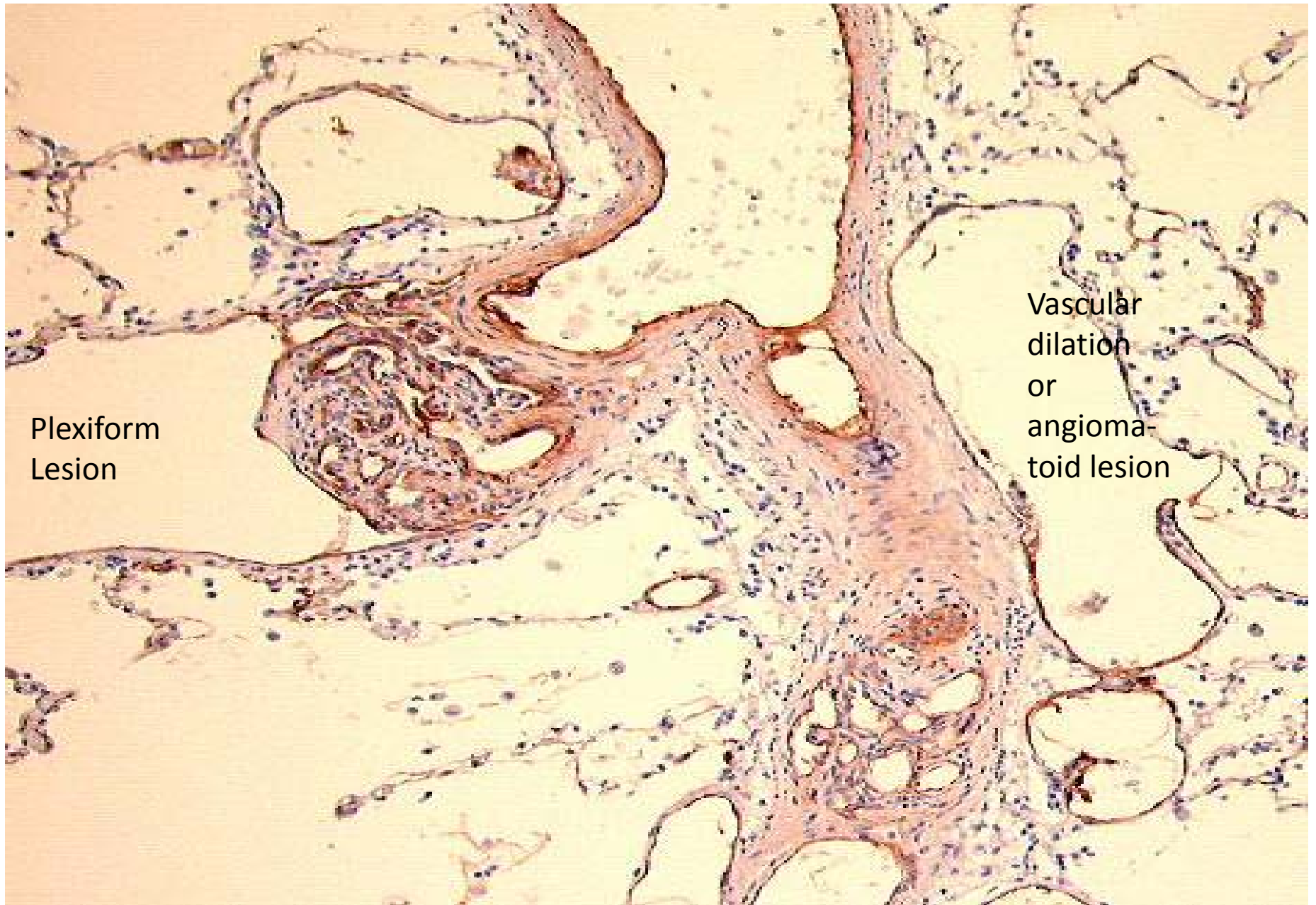


Pulmonary Arterial Hypertension



Severe Pulmonary Hypertension

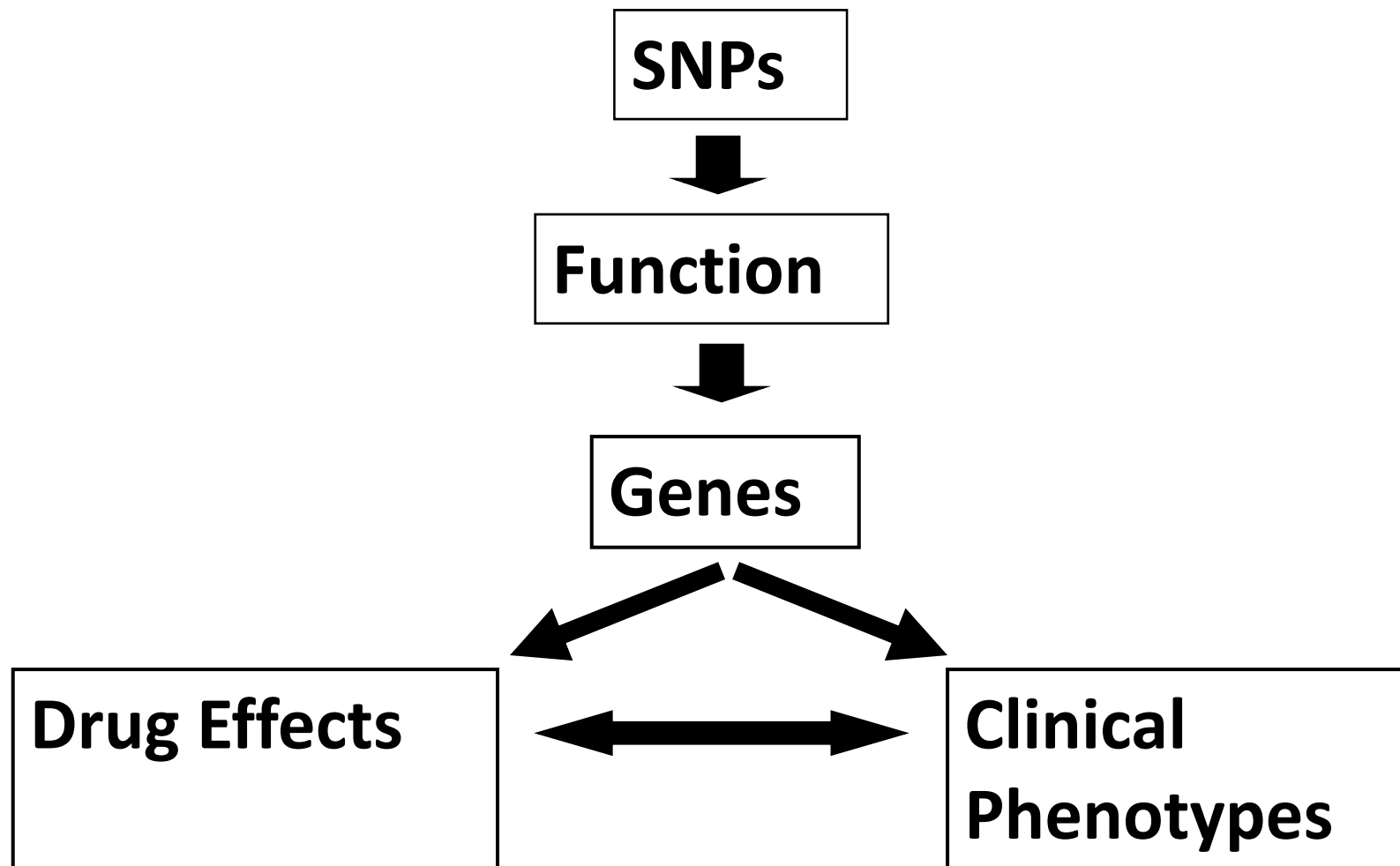
FIG S5



Pharmacogenomic GWAS

FIG S6

Challenges



Molecular diversity of tissues & vasculatures : molecular signature/zip code

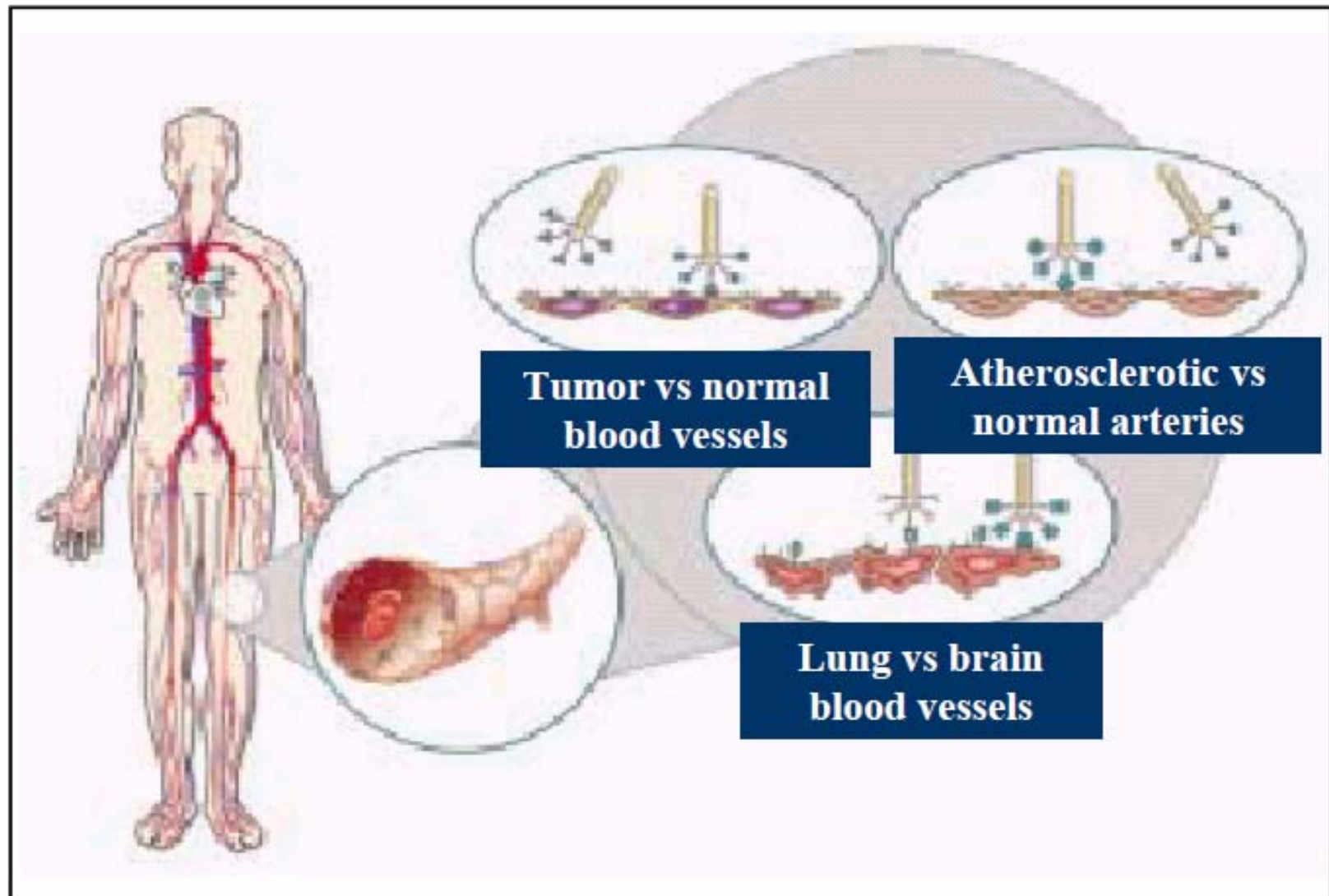


FIG S8

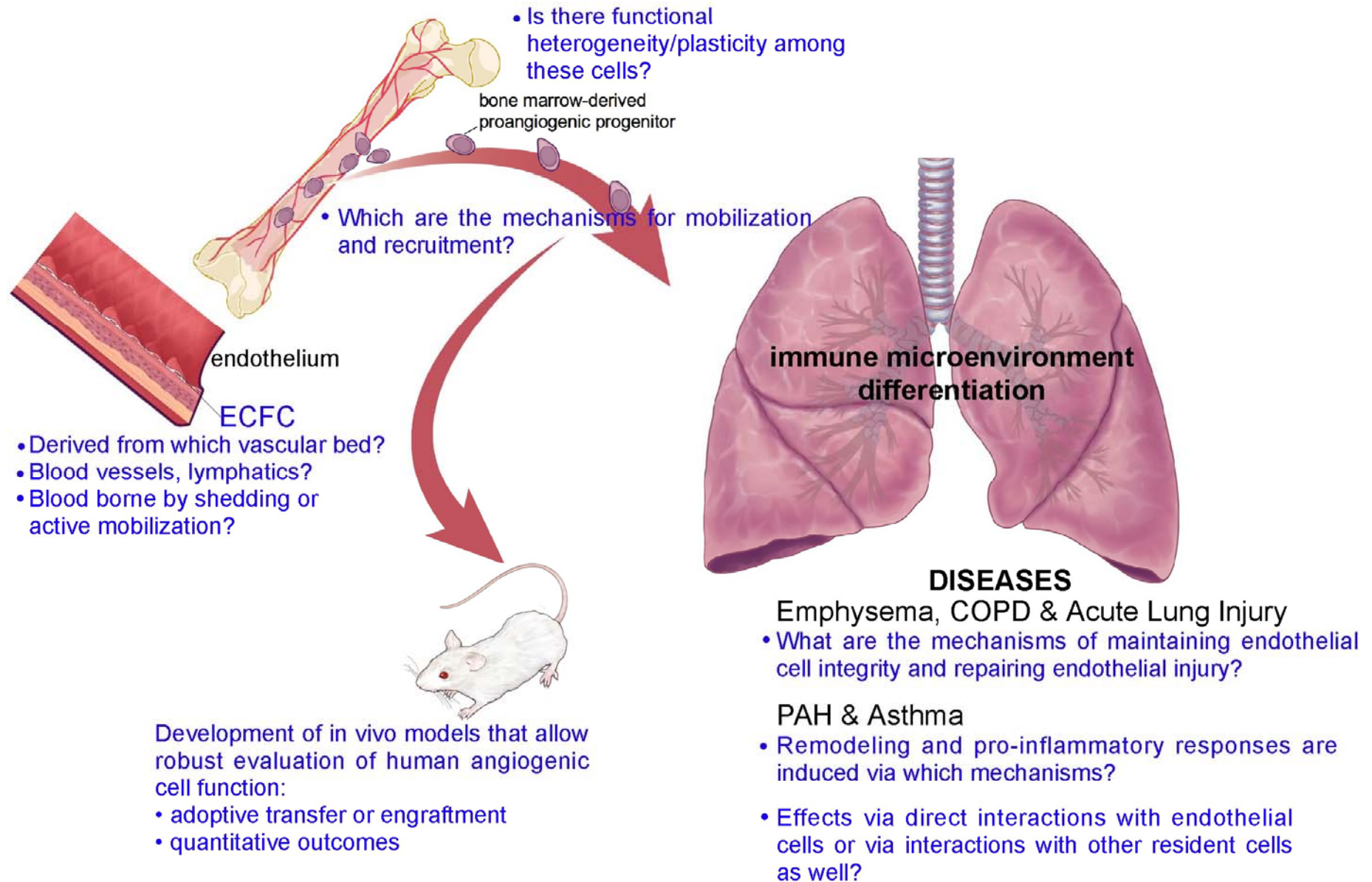
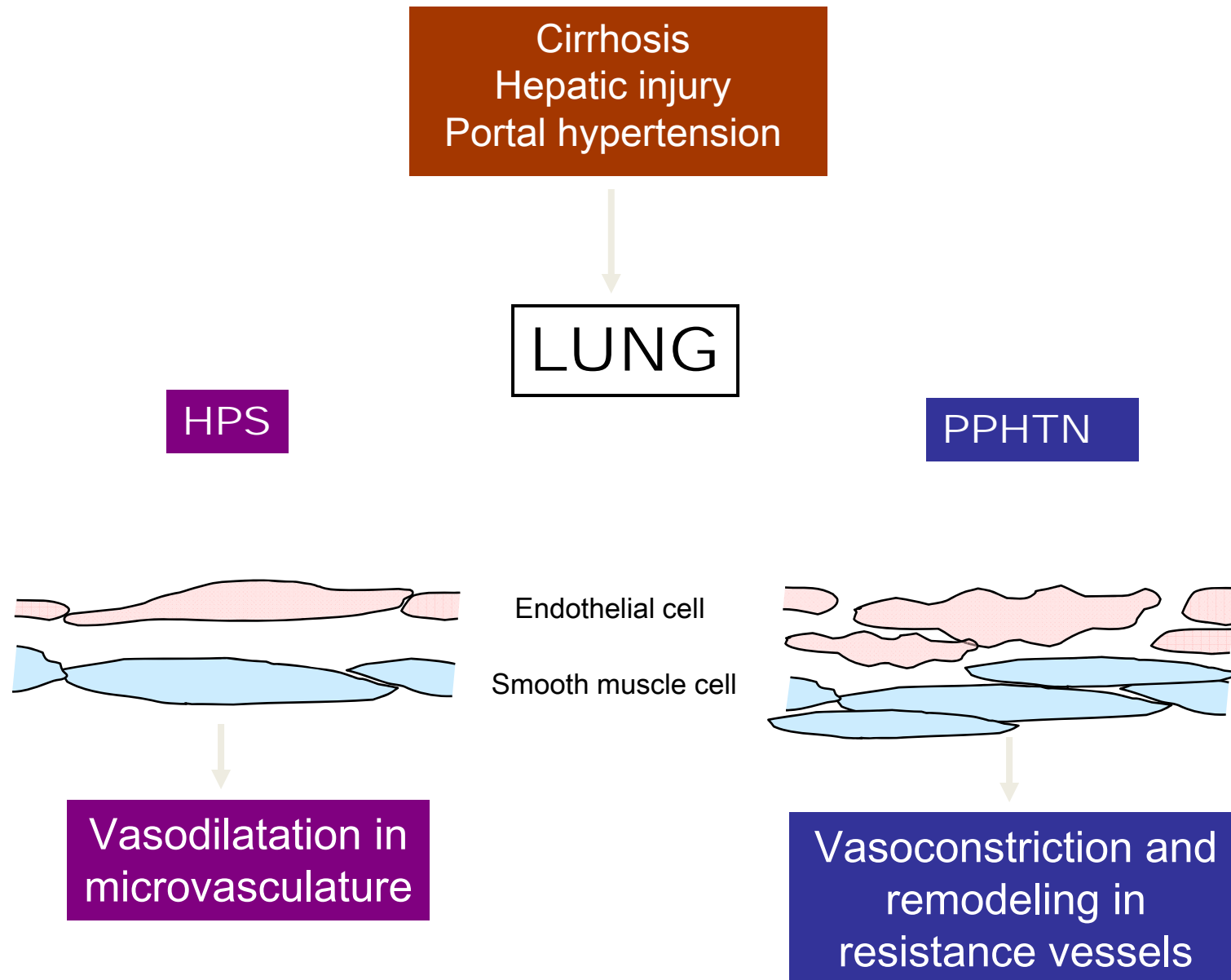
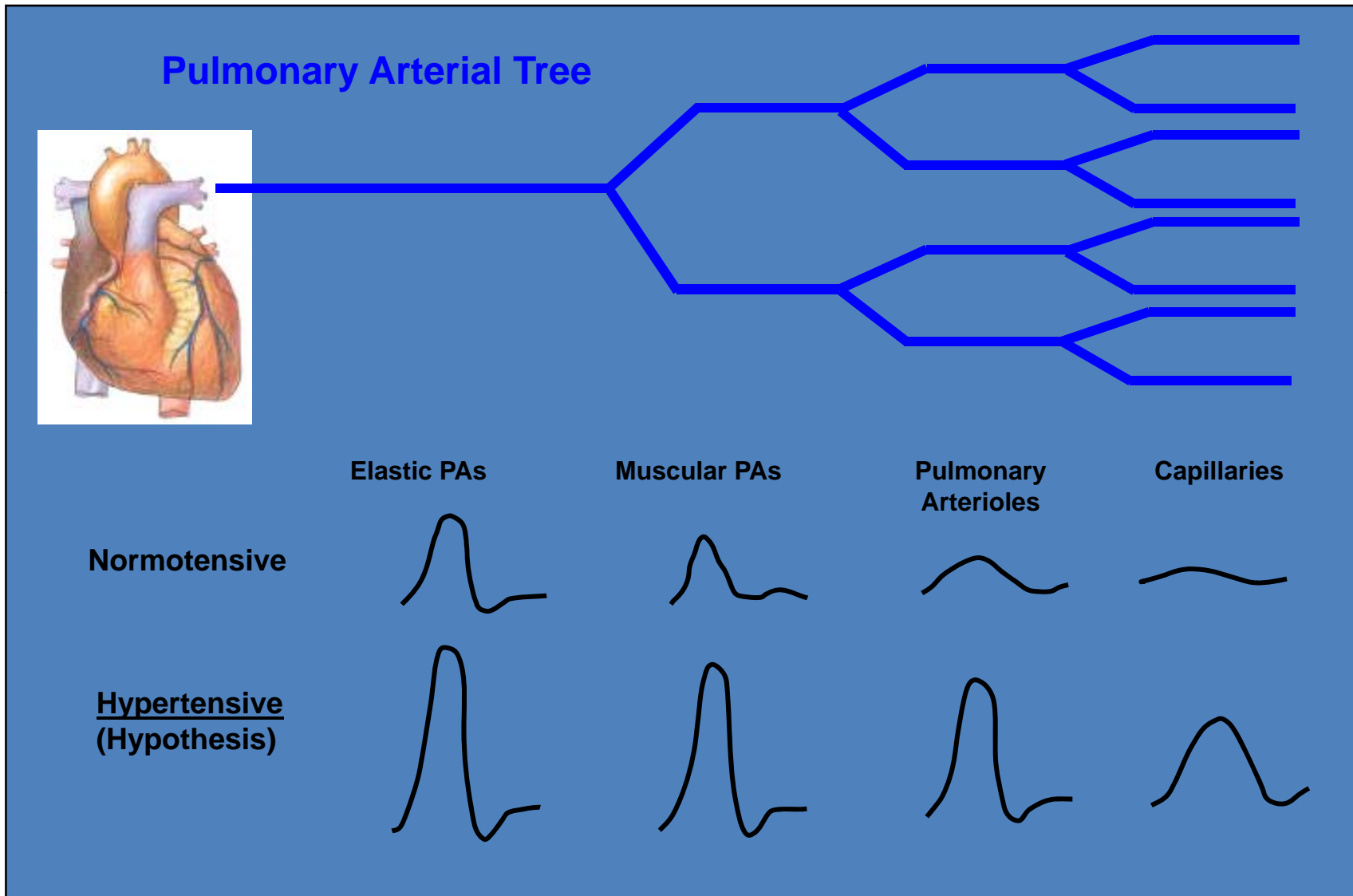


FIG S9



Proximal Stiffening Leads to High Pulsatility Flow in Distal Vessels

FIG S10

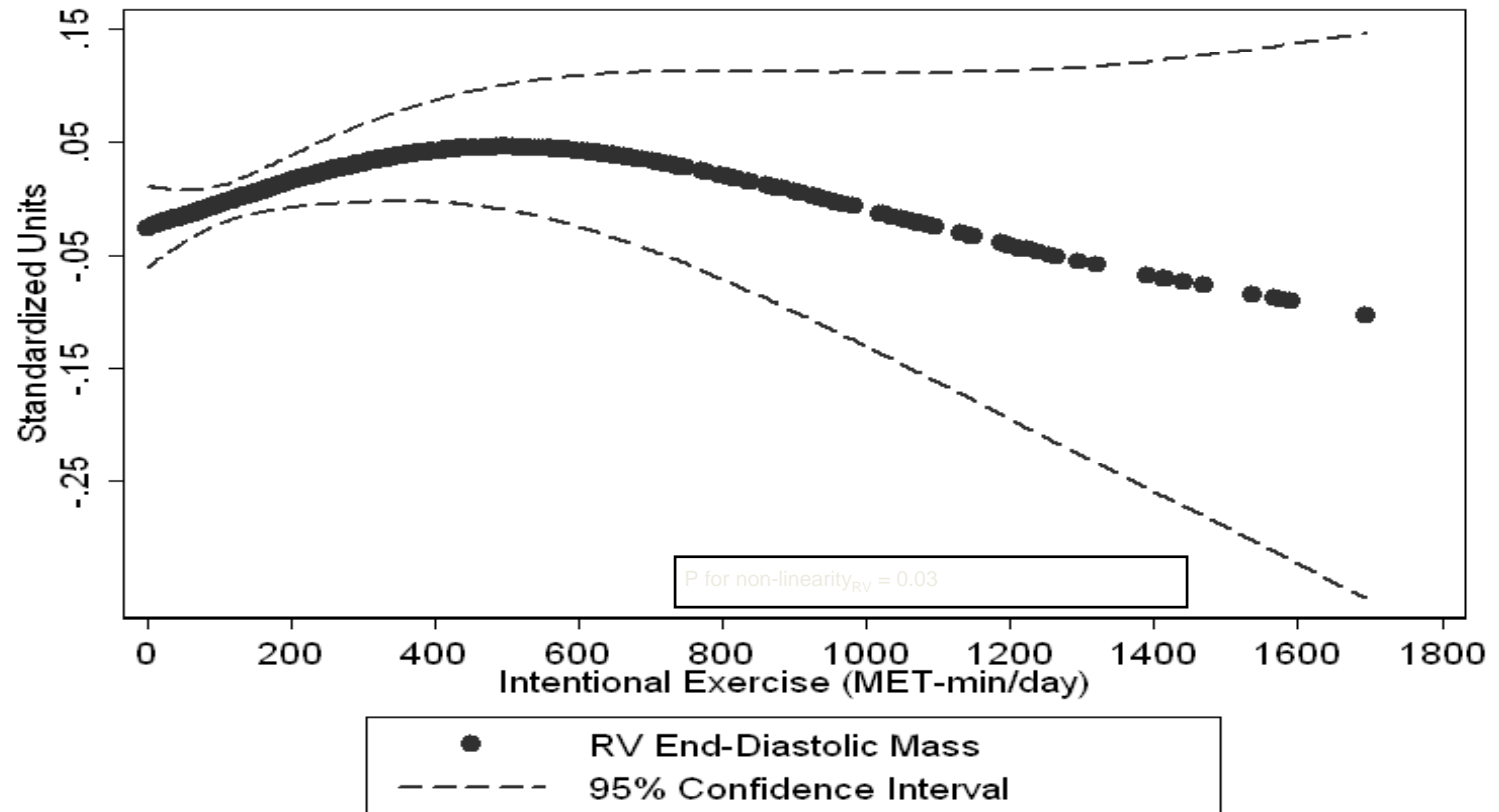


Non-Pharmacological and Pharmacological Treatment Associated With Reduction in Arterial Stiffness

FIG S11

<i>Non-Pharmacological</i>	<i>Pharmacological</i>
Exercise training	Anti-hypertensive treatment
Dietary changes	Diuretics
Weight Loss	Beta-blockers
Low -salt diet	ACE-inhibitors
Moderate alcohol consumption	AT1 blockers
Garlic powder	Calcium channel antagonists
Alpha-Linolenic acid	Treatment of congestive heart failure
Fish oil	ACE-inhibitors
HRT	Nitrates
	Hypolipidemic agents
	Statins
	Antidiabetic agents
	Thiazolidinediones
	Ace-breakers
	Alagebrium (ALT-711)
	PDE5 inhibitors
	Sildenafil

Intentional Exercise and RV Mass



Adjusted for age, sex, race, education, height, weight, smoking, pkyrs, blood pressure, HTN, DM, chol, statin use, LV mass

Right Ventricular Dysfunction / Failure is Largely the Result of Increased Afterload Which is Traditionally Considered in Terms of Pulmonary Vascular Resistance

FIG S13

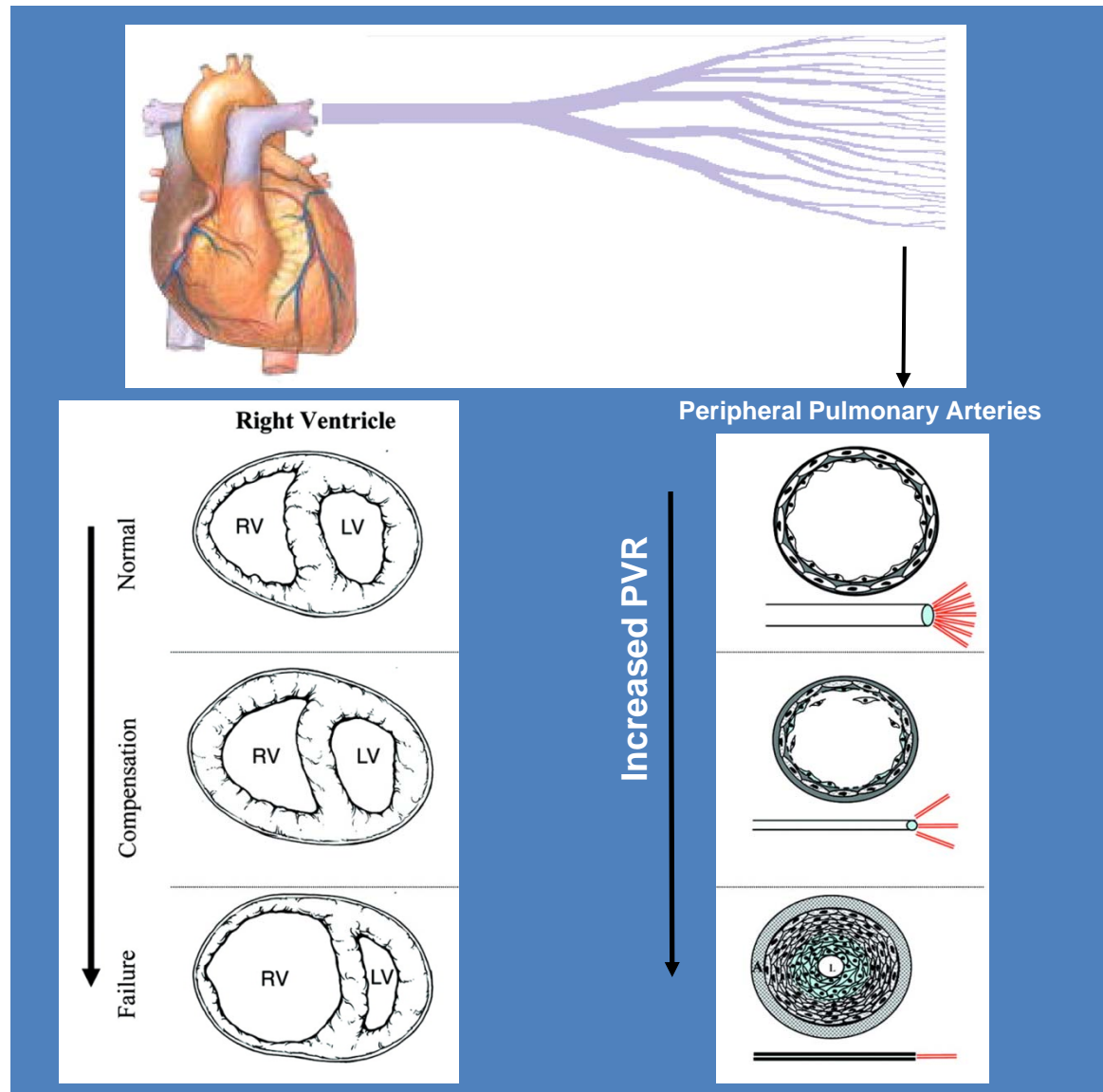


FIG S14

RV		LV
Fold ↑ ---	afterload ---	% ↑
Adaptive ---	hypertrophy ---	maladaptive
PAB damaging ---	HDAC inhibition ---	TAC beneficial
ANP zero ---	expression ---	ANP expressed
No hypertrophy ---	norepinephrine ---	hypertrophy
↓ contraction	phenylephrine ---	↑ contraction
↓ miRNA 21 & 24	failure ---	↑ miRNA 21 & 24

Some important differences which distinguish the RV

RV Failure Due to Elevated Afterload is the Proximate Cause of Death in Patients With

PAH

FIG S15

