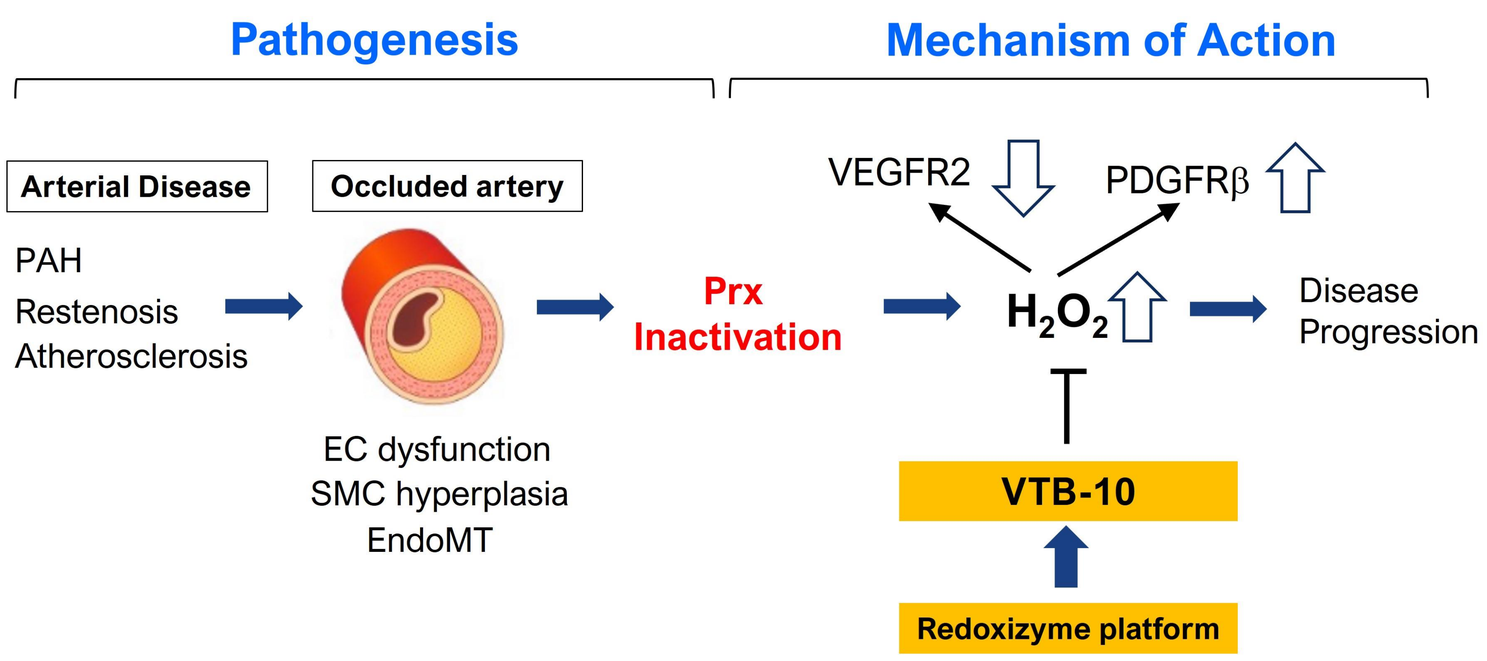
RS-2024-00338193

Non-clinical development of novel target PRDX-based treatment for pulmonary arterial hypertension

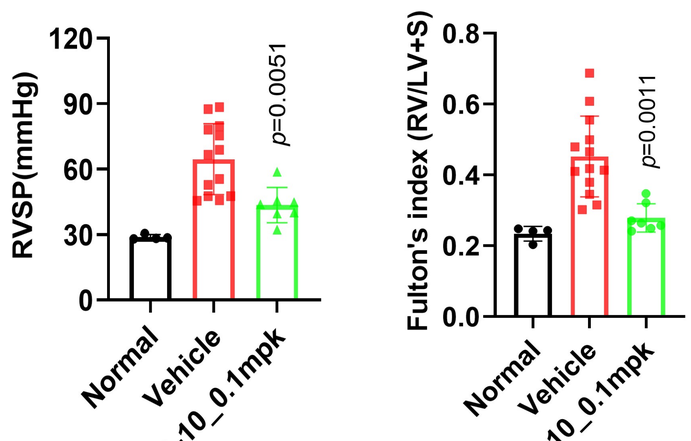
VASTHERA Co. Ltd.

Disease Area	***Cardiovascular disease (CVD)***
Product Type	Small-molecule compound (VTB-10)
Indication	Pulmonary Arterial Hypertension (PAH)
Target	Peroxiredoxin II (PRDX2)
Mechanism of Action	VTB-10 is an enzyme mimetic (Nanozyme) that replaces the activity of inactivated or deficient peroxiredoxin (Enzyme replacement) and represents a novel therapeutic mechanism to restore symptoms and function of pulmonary arterial hypertension by simultaneously and oppositely modulating key RTK receptor signaling systems in vascular smooth muscle and endothelial cells.
Competitiveness	Competitor : Sotatercept; MSD - PAH is a rare vascular disease where three receptor signaling pathways, i.e. PDGF, VEGF, and TGF-β, are dysregulated. Sortatercept is a protein drug that targets TGF-β, family ligands (Activin/GDF-11) and retards the progression of late-stage PAH. - In contrast, VTB-10 is a small-molecule compound that doubly targets PDGF and VEGF and reverse the PAH.
Development Stage	***IND-enabling study***
Route of Administration	Oral

Key Data



1 VTB-10 reduces right ventricle hypertrophy/systolic pressure in the SU/Hx-induced rat PAH model.
(PO administration once daily at 0.1 mpk for five-weeks treatment)



2 VTB-10 reverses the occlusion of pulmonary arteries and normalizes structure and function of pulmonary arteries.