

# ZMA001, A Pulmonary Arterial Hypertension Treatment Antibody That Inhibits Immune Cell Migration, Developed In Phase 1 Clinical Trial



CARDIOVASCULAR	Phase 1
Product Type	Human monoclonal antibody (IgG1)
Indication	Pulmonary arterial hypertension (PAH)
Target	Amino-terminal domain of membrane KARS1 (lysyl-tRNA synthetase 1)
MoA(Mechanism of Action)	<p>MoA: Inhibition of monocyte/macrophage migration by inducing rapid internalization of membrane KARS1</p> <ul style="list-style-type: none"> <li>• Pulmonary arterial hypertension (PAH) has a common immune response due to vascular damage, of which infiltration of monocyte/macrophages acts as a key pathological factor.</li> <li>• Cell membrane KARS1 promotes pathological tissue infiltration of monocyte/macrophages through interaction with vascular basement laminin.</li> <li>• Human monoclonal antibody ZMA001 associates with the target KARS1 domain exposed outside of the membrane and induces rapid internalization resulting in removal of KARS1 from the cell membrane.</li> </ul>
Competitiveness	<ul style="list-style-type: none"> <li>• Currently, both clinical and preclinical drugs are mostly the same mechanism of drug composition with vasodilation/proliferative effects.</li> <li>• ZMA001 is a first-in-class therapeutics with novel MOA, which can eliminate chronic inflammation, the root pathologic cause of PAH.</li> <li>• Although it is an immunomodulator, it does not induce systemic immunosuppression or immune cell death, making the effect safe and specific.</li> <li>• ZMA001 enables clear and unique positioning in target and mechanism ingenuity.</li> </ul>
Development Stage	Phase 1
Route of Administration	Intravenous route (Infusion)