



**Supplementary figure 1.** Protein levels in disease groups and controls. PAH: pulmonary arterial hypertension; CTEPH: chronic thromboembolic pulmonary hypertension(PH); HFpEF-PH: PH due to heart failure (HF) with preserved ejection fraction (EF); HFrEF-PH: PH due to HF with reduced EF; HF-NON-PH: HF without PH; MMP: Matrix metalloproteinase; TIMP-4; Tissue inhibitor of metalloproteinases 4; CYR61: protein CYR61; WISP-1: WNT1-inducible-signaling pathway protein 1; AU: arbitrary units; Significant difference after FDR analysis depicted as \* =  $p < 0.021$  \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$ ; \*\*\*\* =  $p < 0.0001$ .

**Supplementary table 1. Multiple comparison p-values in all groups**

COMPARISON	MMP-2	MMP-3	MMP-7	MMP-9	MMP-12	TIMP4	CYR61	SPARC	Thrombo-spondin-2	WISP-1
CONTROL vs. PAH	<b>0.0098*</b>	0.4027	<b>&lt;0.0001*</b>	<b>0.0029*</b>	<b>&lt;0.0001*</b>	<b>0.0012*</b>	<b>0.0003*</b>	0.8655	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>
CONTROL vs. CTEPH	0.0639	0.1572	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>	<b>0.0118*</b>	<b>0.0009*</b>	<b>&lt;0.0001*</b>	<b>0.0003*</b>
CONTROL vs. HFpEF-PH	<b>&lt;0.0001*</b>	0.0595	<b>&lt;0.0001*</b>	0.1275	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>	0.0342	0.1548	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>
CONTROL vs. HFrEF-PH	<b>&lt;0.0001*</b>	0.0228	<b>&lt;0.0001*</b>	<b>0.0065*</b>	<b>0.0065*</b>	<b>0.0022*</b>	<b>0.0041*</b>	0.0788	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>
CONTROL vs. HF-NON-PH	<b>0.0137*</b>	0.5286	<b>&lt;0.0001*</b>	0.1439	<b>0.003*</b>	<b>0.0037*</b>	0.9124	0.1673	<b>0.0003*</b>	<b>0.0017*</b>
PAH vs. CTEPH	0.7037	<b>0.0118*</b>	<b>0.0027*</b>	0.0217	0.9648	<b>0.0007*</b>	0.4853	<b>&lt;0.0001*</b>	0.137	0.8567
PAH vs. HFpEF-PH	0.0592	<b>0.0008*</b>	<b>&lt;0.0001*</b>	0.1119	0.3624	<b>0.0049*</b>	0.0905	0.0439	0.5394	<b>0.0084*</b>
PAH vs. HFrEF-PH	<b>&lt;0.0001*</b>	<b>0.0001*</b>	<b>0.0029*</b>	0.8843	<b>0.0088*</b>	0.9629	0.4302	<b>0.0139*</b>	<b>0.007*</b>	<b>0.0078*</b>
PAH vs. HF-NON-PH	0.5999	0.1388	<b>0.008*</b>	0.3232	0.2736	0.6632	<b>0.0013*</b>	0.0771	0.8814	0.931
CTEPH vs. HFpEF-PH	0.0625	0.7598	0.7198	<b>0.0006*</b>	0.4424	0.3399	0.4866	<b>0.0202*</b>	0.3644	0.0533
CTEPH vs. HFrEF-PH	<b>0.0001*</b>	0.5009	0.6059	0.0211	0.0426	<b>0.001*</b>	0.9705	0.0431	0.4761	0.0524
CTEPH vs. HF-NON-PH	0.4529	0.4968	0.9633	<b>0.0082*</b>	0.3608	0.0227	0.0244	0.0836	0.3032	0.8293
HFpEF-PH vs. HFrEF-PH	0.025	0.6749	0.3083	0.1743	<b>0.0012*</b>	<b>0.0073*</b>	0.3924	0.7074	0.0586	0.9873
HFpEF-PH vs. HF-NON-PH	0.3833	0.306	0.7062	0.8289	0.0889	0.1031	0.0663	0.8292	0.7612	0.046
HFrEF-PH vs. HF-NON-PH	<b>0.0083*</b>	0.1719	0.6767	0.3973	0.4096	0.6509	<b>0.0116*</b>	0.9383	0.0733	0.0454

Table depict p-values of Kruskal Wallis multiple comparison analysis of all groups. P-values marked with \* (bold) are considered significant ( $P < 0.021$ ) after FDR analysis. PAH: Pulmonary Arterial Hypertension; CTEPH: Chronic Thromboembolic Pulmonary Hypertension; HFpEF-PH: PH due to heart failure (HF) with preserved ejection fraction (EF); HFrEF-PH: PH due to HF with reduced EF; HF-NON-PH: HF without PH. MMP: Matrix metalloproteinase; TIMP-4: Tissue inhibitor of metalloproteinases 4; WISP-1: WNT1-inducible-signaling pathway protein 1.