



miR-29a-3p/THBS2 axis regulates PAH-induced cardiac fibrosis

Supplementary Materials:

Table S1. Clinical characteristics of IPAH patients.

Diagnosis	Clinical Characteristics					Echocardiography						Right Heart Catheterization				
						RA/RV	D-shape	EF (%)	RV'S	PA	TAPSE	RA	m PAP	PCWP	C.O	PVR
	Number	Sex	Age (y)	H/T	DM	Dilated	LV		(cm/s)	(mmHg)		(mmHg)	(mmHg)	(mmHg)	(L/min)	(WU)
IPAH	1	M	84	Y	N	RV	N	77.2	17.6	61	2.52	4	20	14	5.41	1.1
	2	F	49	N	N	RA/RV	Y	71.5	9.16	76	0.96	3	49	3	3.5	13.14
	3	F	55	N	N	RA/RV	Y	79.3	12.6	189	1.95	15	61	17	3.48	12.06
	4	M	37	N	N	RA/RV	Y	75.7	10	57	1.3	9	47	10	5.48	6.75
	5	F	52	N	N	RA/RV	Y	78.5	9.36	177	1.22	14	53	21	3.3	9.69
	6	F	28	N	N	RV	Y	64.1	11	72	1.65	8	55	10	9.73	3.49
	7	F	36	N	N	RA/RV	Y	77.8	10.1	79	1.65	6	45	10	4.48	7.8
	8	F	36	N	N	RA/RV	Y	65.3	11.5	87	2.22	9	42	11	4.57	6.78
	9	F	40	N	N	RA/RV	Y	62.4	12.8	36	1.88	7	40	11	7.25	4
	10	F	40	N	N	RA/RV	Y	72.9	11.5	44	1.95	10	45	13	7.33	4.1
	11	M	56	N	N	RA/RV	Y	78.5	14.2	64	1.7	12	56	14	7.27	5.7
	12	F	76	Y	Y	Mild RA	N	69.3	12.1	101	2.02	8	53	14	4.5	7.55
	13	F	32	N	N	RA/RV	Y	63.2	11.5	103	1.37	6	70	12	3.37	17.2
	14	M	32	N	N	RA/RV	Y	71.5	15.2	118	1.81	19	62	13	3.58	13.6
	15	F	34	N	N	N	N	73.8	11.7	57	1.79	12	20	12	5.09	1.57
	16	F	50	N	N	RV	Y	82.49	15.5	83	2.85	12	44	15	6.46	4.49
	17	F	48	N	N	RA/RV	Y	73.2	9.46	96	1.75	8	50	12	2.84	13.3
	18	F	73	N	Y	Mild RV	N	69.9	11.2	61	1.56	13	73	15	5.33	10.8
	19	F	72	N	Y	LA/RA/RV	Y	71.28	10.7	112	1.52	10	48	9	2.65	14.7
	20	M	52	N	Y	RA/RV	N	75.8	16.4	60	1.97	7	28	14	8.57	1.63
	21	F	60	Y	N	RA/RV	Y	79	12	77	1.89	20	57	14	4.52	9.51

Abbreviations: H/T, hypertension; DM, diabetes; RA, right atrial; RV, ventricular; PA, estimated systolic pulmonary pressure; TAPSE, tricuspid annular plane systolic excursion; EF, ejection fraction; RV-S', longitudinal velocity of the tricuspid annulus (measure by tissue Doppler); mPAP, mean pulmonary artery pressure; PVR, pulmonary vascular resistance; C.O, cardiac output; PCWP, pulmonary capillary wedge pressure; D-shape LV, D-shaped left ventricle (Flattening of the interventricular septum detected during echocardiographic examination is called D-shaped left ventricle)

Table S2. Clinical characteristics of healthy donors.

Clinical characteristics					Echocardiography		
Number	Sex	Age (y)	H/T	DM	EF (%)	RV-S' (cm/s)	PA (mmHg)
1	F	30	N	N	69.6	N/A	27
2	M	44	N	N	56.2	N/A	<20
3	F	32	N	N	78	N/A	33
4	M	43	N	N	66.8	N/A	<20
5	F	37	N	N	80.5	N/A	<20
6	M	38	N	N	59.5	N/A	<20
7	M	27	N	N	70.7	N/A	24
8	M	38	N	N	71.9	N/A	28
9	F	22	N	N	53	N/A	25
10	F	33	N	N	75.4	N/A	<20
11	F	36	N	N	70.6	N/A	<20
12	F	44	N	N	53.9	N/A	<20
13	F	37	N	N	64.8	N/A	28
14	F	45	N	N	71.9	N/A	<20
15	M	25	N	N	73	N/A	<20
16	M	34	N	N	70.4	N/A	28
17	F	31	N	N	65	N/A	26
18	F	45	N	N	63	N/A	22
19	M	29	N	N	68.2	N/A	26
20	F	38	N	N	73.8	N/A	28
21	M	44	N	N	58.6	N/A	29

Abbreviations: H/T, hypertension; DM, diabetes; EF, ejection fraction; RV-S', longitudinal velocity of the tricuspid annulus (measure by tissue Doppler); PA, estimated systolic pulmonary pressure.

Table S3. Primer and probe sequences.

Assay Name	5' labeled	Sequence (5'–3')	3' labeled
hsa-miR-29a-3p reverse transcribed primer		GTCGTATCCAGTGCAGGGTCCGAGGTATTCGCACTG GATACGACTAACCG	
hsa-miR-29a-3p-F	----	CGCGTAGCACCATCTGAAAT	----
hsa-miR-29a-3p-R	----	AGTGCAGGGTCCGAGGTATT	----
hsa-miR-29a-3p-P	FAM	ACTAACCGATTTCAG	MGB
cel-miR-29a-3p reverse transcribed primer		GTCGTATCCAGTGCAGGGTCCGAGGTATTCGCACTG GATACGACCAAGCT	
cel-miR-39-3p-F	----	CGCGTCACCGGGTGTAAG	----
cel-miR-39-3p-R	----	AGTGCAGGGTCCGAGGTATT	----
cel-miR-39-3p-P	FAM	ACGACCAAGCTGATTACAC	MGB

FAM, 6-carboxyfluorescein; MGB, minor groove binder