

**Table S1 The primer sequences.**

ncRNA	Primer sequence
<i>cel-miR-39-3p</i>	non-disclosure agreement(ribobio,Inc.)
<i>U6</i>	5'-CGCTTCGGCACATATAC-3'
	5'-TTCACGAATTTGCGTGTTCATC-3'
<i>tRF-30-3JVIJMRPFQ5D</i>	5'-CCGGCTAGCTCAGTCGGTAGA-3'
	5'-TATGGTTGTTTCACGACTCCTTCAC-3'
<i>tRF-16-R29P4PE</i>	5'-CTCAGGTTGTGGGGATGTAGCT-3'
	5'-TATGGTTGTTTCACGACTCCTTCAC-3'
<i>tRF-21-NB8PLML3E</i>	5'-CAGGTTGTCTGAATCCTTCAC-3'
	5'-TATGGTTGTTTCACGACTCCTTCAC-3'
<i>tRF-21-SWRYVMMV0</i>	5'-GCTACGCGTCGTGGTTGTAGT-3'
	5'-TATGGTTGTTTCACGACTCCTTCAC-3'

**Table S2 Baseline characteristics.**

characteristics	Sequencing samples		all clinical samples collected		<i>p</i> value
	CON ( <i>n</i> =4)	PCH( <i>n</i> =4)	CON ( <i>n</i> =25)	PCH( <i>n</i> =35)	
Age (years)	49.25	56	<b>50.08±7.5051</b>	<b>65.4±15.1758</b>	<b>&lt;0.0001</b>
Female, <i>n</i> (%)	0 (0%)	0 (0%)	6 (24%)	9 (25.7%)	0.8798
Body surface area (m <sup>2</sup> )	1.786	1.8332	1.7776±0.147	1.7923±0.2319	0.7846
Body mass index (kg/m <sup>2</sup> )	23.5835	26.0524	24.302±3.11	25.9447±4.9706	0.1575
Smoking (%)	2 (50%)	4 (100%)	6 (24%)	14 (40%)	0.1949
Drinking (%)	3 (75%)	2 (50%)	6 (24%)	9 (25.7%)	0.8798
Co-morbidities					
Diabetes mellitus, <i>n</i> (%)	0 (0%)	4 (100%)	<b>1 (4%)</b>	<b>13 (37.1429%)</b>	<b>0.0028</b>
Hypertension, <i>n</i> (%)	0 (0%)	2 (50%)	<b>5 (20%)</b>	<b>28 (80%)</b>	<b>&lt;0.0001</b>
Dyslipidaemia, <i>n</i> (%)	0 (0%)	1 (25%)	1 (4%)	5 (14.3%)	0.3827

CON: control; PCH: pathological cardiac hypertrophy

**Table S3 ROC curve of significantly down-regulated tsRNA of PCH.**

tsRNA	course of PCH	AUC	SEM	<i>p</i> value	95% CI	<i>Cutoff</i> value	Sensitivity%	Specificity%
<i>tRF-30-3JVIJMRPFQ5D</i>	PCH	0.7423	0.0628	0.0015	0.6192 to 0.8654	0.0423	42.86	96.00
	Concentric hypertrophy	0.7893	0.0772	0.0024	0.6381 to 0.9406	0.0409	46.67	96.00
	Eccentric hypertrophy	0.6926	0.0831	0.0302	0.5297 to 0.8555	0.0423	36.84	96.00
<i>tRF-16-R29P4PE</i>	PCH	0.7497	0.0652	0.0011	0.6219 to 0.8775	0.0228	17.14	96.00
	Concentric hypertrophy	0.7825	0.0717	0.0025	0.6419 to 0.9231	0.0539	50.00	92.00
	Eccentric hypertrophy	0.7156	0.0788	0.0169	0.5610 to 0.8701	0.0219	16.67	96.00
<i>tRF-21-NB8PLML3E</i>	PCH	0.7726	0.0614	0.0003	0.6522 to 0.8930	0.0049	25.71	96.00
	Concentric hypertrophy	0.8475	0.0621	0.0002	0.7258 to 0.9692	0.0049	37.50	96.00
	Eccentric hypertrophy	0.7129	0.0792	0.0204	0.5578 to 0.8681	0.0049	17.65	96.00
<i>tRF-21-SWRYVMMV0</i>	PCH	0.8360	0.0511	<0.0001	0.7359 to 0.9361	0.0324	57.14	96.00
	Concentric hypertrophy	0.8825	0.0603	<0.0001	0.7644 to 1.000	0.0308	62.50	96.00
	Eccentric hypertrophy	0.7867	0.0740	0.0015	0.6417 to 0.9317	0.0308	50.00	96.00

AUC: area under curve; CI: confidence interval; PCH: pathological cardiac hypertrophy; ROC: receiver operating characteristic; SEM: standard

error of mean; tsRNA: tRNA-derived small RNAs.  $p < 0.05$  was regarded as significant.

**Table S4 Pearson correlation coefficients of significantly decreased tsRNA and clinical parameters of PCH.**

tsRNA	course of PCH	IVS (mm)		LVPWd (mm)		LVEDD (mm)		LVEF (%)	
		<i>r</i> value	<i>p</i> value	<i>r</i> value	<i>p</i> value	<i>r</i> value	<i>p</i> value	<i>r</i> value	<i>p</i> value
<i>tRF-30-3JVIJMRPFQ5D</i>	PCH	-0.0889	0.6172	<b>-0.4227</b>	<b>0.0128</b>	0.1151	0.5169	-0.2953	0.0900
	Concentric hypertrophy	-0.2991	0.2788	-0.2298	0.4101	0.3010	0.2756	-0.3234	0.2397
	Eccentric hypertrophy	0.3208	0.1805	<b>-0.7521</b>	<b>0.0002</b>	-0.0958	0.6965	-0.2598	0.2827
<i>tRF-16-R29P4PE</i>	PCH	-0.0459	0.7968	<b>-0.4517</b>	<b>0.0083</b>	0.0064	0.9712	-0.1777	0.3148
	Concentric hypertrophy	-0.0533	0.8447	-0.3482	0.2035	0.2663	0.3188	-0.3062	0.2487
	Eccentric hypertrophy	0.4104	0.0907	<b>-0.6063</b>	<b>0.0076</b>	-0.3874	0.1122	0.0587	0.8170
<i>tRF-21-NB8PLML3E</i>	PCH	-0.1906	0.2880	<b>-0.5567</b>	<b>0.0009</b>	0.3223	0.0674	<b>-0.4630</b>	<b>0.0067</b>
	Concentric hypertrophy	-0.0556	0.8381	-0.3689	0.1761	0.2821	0.2898	-0.4513	0.0793
	Eccentric hypertrophy	0.0787	0.7640	<b>-0.6172</b>	<b>0.0083</b>	0.1368	0.6006	-0.3712	0.1424
<i>tRF-21-SWRYVMMV0</i>	PCH	-0.1067	0.5482	<b>-0.4223</b>	<b>0.0144</b>	0.1975	0.2628	-0.3400	0.0613
	Concentric hypertrophy	-0.2424	0.3657	-0.3670	0.1784	0.3847	0.1412	-0.4589	0.0738
	Eccentric hypertrophy	0.4332	0.0725	<b>-0.7020</b>	<b>0.0017</b>	-0.0681	0.7885	-0.1578	0.5316

IVS: the thickness of the interventricular septum; LVEDD: left ventricular end-diastolic diameter; LVPWd: left ventricular posterior wall dimensions;

LVEF: left ventricular ejection fraction; PCH: pathological cardiac hypertrophy.  $p < 0.05$  was regarded as significant.