

Table S1. Echocardiography parameters of Pulse-wave doppler (PWD) of pulmonary valve, ascending aorta and diaphragm ultrasonography in male mice from 129J, Balb/C and C57Bl/6 background

Echocardiography parameters	129J		Balb/C		C57Bl/6	
	8 weeks old		8 weeks old		20 weeks old	
Pulmonary valve						
	WT (n=13)	Col4a3 ^{-/-} (n=14)	WT (n=12)	Col4a3 ^{-/-} (n=9)	WT (n=11)	Col4a3 ^{-/-} (n=9)
PAT (ms)	20.53 ± 3.63	18.99 ± 4.6	18.73 ± 2.74	18.55 ± 3.38	18.59 ± 3.58	19.78 ± 3.29
PET (ms)	61. 50 ± 2.83	56.35 ± 9.10	62.48 ± 8.11	60.77 ± 4.11	53.51 ± 4.13	55.80 ± 2.80
PV Peak Vel (mm/s)	-689±118.23 ^{€€}	-609.59±105.58	-529.85 ± 87.80 [†]	-576.33 ± 90.07	-689.88 ± 162.09	-669.29 ± 83.74
PV VTI (mm)	30.1 ± 5.06	23.39 ± 7.82*	23.57 ± 4.29	25.65 ± 3.91	26.91 ± 5.54	26.06 ± 3.33
Mean Vel (PV VTI, mm/s)	-415.8 ± 68.5	-358.4 ± 63.65	-334.4 ± 57.15	-365.5 ± 61.37	-436.8 ± 103.3	-395.7 ± 73.6
Mean Grad (PV VTI, mmHg)	0.71 ± 0.23	0.53 ± 0.19	0.46 ± 0.15	0.55 ± 0.20	0.80 ± 0.36	0.65 ± 0.23
Peak Vel (PV VTI, mm/s)	-705.1 ± 120.4	-609.4 ± 107	-539.9 ± 91.52 ^{€†}	-588.1 ± 98.58	-697.2 ± 161.9	-685.6 ± 72.03
Peak Grad (PV VTI, mmHg)	2.04 ± 0.67	1.53 ± 0.54	1.20 ± 0.38 ^{€†}	1.42 ± 0.49	2.04 ± 0.89	1.9 ± 0.39
MPAP (common, mmHg)	69.6 ± 1.70	70.46 ± 2.06	70.57 ± 1.24	70.65 ± 1.52	70.64 ± 1.61	70.1 ± 1.48
MPAP (PAT < 120 ms, mmHg)	76.97 ± 2.24	78.23 ± 2.83	78.39 ± 1.70	78.5 ± 2.1	78.48 ± 2.22	77.73 ± 2.04
PAT/PET	0.33 ± 0.057	0.33 ± 0.047	0.30 ± 0.04	0.31 ±0.05	0.34 ± 0.05	0.35 ± 0.05
PV Peak Pressure (mmHg)	1.96 ± 0.66	1.53 ± 0.53	1.15 ± 0.36 ^{€†}	1.36 ± 0.44	1.99 ± 0.88	1.82 ± 0.45
Ascending Aorta						
	WT (n=13)	Col4a3 ^{-/-} (n=15)	WT (n=12)	Col4a3 ^{-/-} (n=9)	WT (n=11)	Col4a3 ^{-/-} (n=10)
AET (ms)	50.31 ± 3.12	45.67 ± 5.0 ^{€€, ¥¥}	56.32 ± 6.27	56.67 ± 7.33	51.50 ± 6.39	55.03 ± 9.15
Aortic valve Peak Velocity (mm/s)	817.38 ± 226.07 ^{€€€}	893.92±127.13 ^{€€€}	522.97±127.20	555.87±139.26	613.28±176.67	661.54±199.93 ^{¥¥}
AV Peak Pressure (mmHg)	2.86 ± 1.45 ^{€€€, ¥¥}	3.26 ± 0.91 ^{€€€, ¥¥}	1.15 ±0.48	1.31 ± 0.69	1.62 ± 0.85	1.89 ± 1.14
Diaphragm ultrasonography						
	WT (n=13)	Col4a3 ^{-/-} (n=15)	WT (n=12)	Col4a3 ^{-/-} (n=9)	WT (n=11)	Col4a3 ^{-/-} (n=10)
Diaphragm movement (in mm)	0.83 ± 0.10	0.58 ± 0.065	0.95 ± 0.12	0.89 ± 0.16	1.07 ± 0.27	0.9 ± 0.36

PAT: Pulmonary Acceleration Time, PET: Pulmonary Ejection Time, PV: Pulmonary Valve, VTI: Velocity Time Integral, Vel: Velocity, Grad: Gradient, MPAP: Mean Pulmonary Artery Pressure, AET: Aortic Ejection Time, AV: Aortic Valve, ms: milliseconds, s: seconds, mm: millimeters. Values are mean ± SD. *p<0.05, **p<0.01, ***p<0.001 and ****p<0.0001 compared Col4a3^{-/-} with their respective control (same strain), †p<0.05, ††p<0.01, †††p<0.001, ††††p<0.0001 differences between Balb/C strain and C57Bl/6 strain (WT vs WT and Col4a3^{-/-} vs Col4a3^{-/-}), €p<0.05, €€p<0.01, €€€p<0.001, €€€€p<0.0001 differences between Balb/C strain and 129J (WT vs WT and Col4a3^{-/-} vs Col4a3^{-/-}), ¥P<0.05, ¥¥p<0.01, ¥¥¥p<0.001, ¥¥¥¥p<0.0001 difference between 129J and C57Bl/6 (WT Vs WT and Col4a3^{-/-} vs Col4a3^{-/-}).

Table S2. Echocardiography parameters of Pulse-wave doppler (PWD) of pulmonary valve, ascending aorta and diaphragm ultrasonography in female mice from 129J, Balb/C and C57Bl/6 background

Echocardiography parameters	129J		Balb/C		C57Bl/6	
	8 weeks old		8 weeks old		20 weeks old	
	Pulmonary valve					
	WT (n=13)	Col4a3 ^{-/-} (n=16)	WT (n=12)	Col4a3 ^{-/-} (n=14)	WT (n=14)	Col4a3 ^{-/-} (n=10)
PAT(ms)	18.23 ± 2.31	20.69 ± 3.40	18.43 ± 4.28	18.06 ± 3.85	19.50 ± 2.5	20.36 ± 3.78
PET(ms)	58.99 ± 4.93	59.64 ± 6.72	59.73 ± 4.65	65.57 ± 7.28 ^{†††}	54.82 ± 3.13	54.44 ± 2.82
PV Peak Vel (mm/s)	-792.67±166.13 ^{€€}	-723.34±156.9 ^{€€}	-591.48±134.04	-536.61±125.96	-651.96 ± 90.22	-662.36 ±130.35
PV VTI (mm)	31.13 ± 6.44	28.98 ± 5.31	26.38 ± 5.25	24.79 ± 5.89	25.32 ± 3.81	24.14 ± 4.67
Mean Vel (PV VTI, mm/s)	-468.7 ± 96.99	-430.4 ± 88.2 [€]	-377.4 ± 81.09	-332.4 ± 70.65	-404.5 ± 62.05	-410.8 ± 69.39
Mean Grad (PV VTI, mmHg)	0.91 ± 0.37 [€]	0.77 ± 0.32 [€]	0.59 ± 0.24	0.46 ± 0.18	0.67 ± 0.2	0.69 ± 0.22
Peak Vel (PV VTI, mm/s)	-797.3 ± 170.5 [€]	-727.3 ± 157.9 ^{€€}	-609 ± 118.8	-544.6 ± 122.3	-666.2 ± 97.74	-672.3 ± 130
Peak Grad (PV VTI, mmHg)	2.65 ± 1.11 ^{€€}	2.21 ± 0.96 [€]	1.53 ± 0.56	1.24 ± 0.51	1.81 ± 0.50	1.87 ± 0.69
MPAP (common, mmHg)	70.8 ± 1.04	69.69 ± 1.53	70.71 ± 1.92	70.88 ± 1.73	70.22 ± 1.12	69.84 ± 1.70
MPAP (PAT < 120 ms, mmHg)	78.7 ± 1.43	77.17 ± 2.11	78.58 ± 2.65	78.81 ± 2.39	77.91 ± 1.55	77.38 ± 2.34
PAT/PET	0.31 ± 0.035	0.35 ± 0.04 ^{€€}	0.31 ± 0.07	0.28 ± 0.06 ^{†††}	0.36 ± 0.036	0.375 ± 0.071
PV Peak Pressure (mmHg)	2.62 ± 1.07 ^{€€, ¥}	2.18 ± 0.95 ^{€€}	1.47 ± 0.6	1.21 ± 0.52	1.73 ± 0.45	1.82 ± 0.68
Ascending Aorta						
	WT (n=13)	Col4a3 ^{-/-} (n=16)	WT (n=12)	Col4a3 ^{-/-} (n=14)	WT (n=14)	Col4a3 ^{-/-} (n=10)
AET (ms)	51.37 ± 3.08 [€]	49.59 ± 2.44 ^{€€}	57.63 ± 4.82	55.98 ± 4.51	52.72 ± 3.09	52.76 ± 8.04
Aortic valve Peak Velocity (mm/s)	10009 ± 216.11 ^{€€€}	959.1 ± 156.6 ^{€€€}	504.36 ± 159.3	452.14 ± 138.79	620.24 ± 134.54 [¥]	557.13 ± 136.99 ^{¥¥}
AV Peak Pressure (mmHg)	4.01± 1.59 ^{€€€€}	3.77 ± 1.21 ^{€€€€}	1.11 ± 0.79	0.76 ± 0.31	1.61 ± 0.69 ^{¥¥¥}	1.16 ± 0.41 ^{¥¥¥}
Diaphragm ultrasonography						
	WT (n=13)	Col4a3 ^{-/-} (n=15)	WT (n=12)	Col4a3 ^{-/-} (n=9)	WT (n=11)	Col4a3 ^{-/-} (n=10)
Diaphragm movement (in mm)	0.86 ± 0.17	0.75 ± 0.28	0.95 ± 0.25	0.86 ± 0.26	0.98 ± 0.26	0.79 ± 0.2

PAT: Pulmonary Acceleration Time, PET: Pulmonary Ejection Time, PV: Pulmonary Valve, VTI: Velocity Time Integral, Vel: Velocity, Grad: Gradient, MPAP: Mean Pulmonary Artery Pressure, AET: Aortic Ejection Time, AV: Aortic Valve, ms: milliseconds, s: seconds, mm: millimeters. Values are mean ± SD. *p<0.05, **p<0.01, ***p<0.001 and ****p<0.0001 compared Col4a3^{-/-} with their respective control (same strain), †p<0.05, ††p<0.01, †††p<0.001, ††††p<0.0001 differences between Balb/C strain and C57Bl/6 strain (WT vs WT and Col4a3^{-/-} vs Col4a3^{-/-}), €p<0.05, €€p<0.01, €€€p<0.001, €€€€p<0.0001 differences between Balb/C strain and 129J (WT vs WT and Col4a3^{-/-} vs Col4a3^{-/-}), ¥P<0.05, ¥¥p<0.01, ¥¥¥p<0.001, ¥¥¥¥p<0.0001 difference between 129J and C57Bl/6 (WT Vs WT and Col4a3^{-/-} vs Col4a3^{-/-}).

Table S3. Heart and lung gravimetric data for male and females mice from 129J, Balb/C and C57Bl/6 background

Gravimetric parameters	129J		Balb/C		C57Bl/6	
	8 weeks old		8 weeks old		20 weeks old	
Male						
	WT (n=17)	<i>Col4a3</i> ^{-/-} (n=18)	WT (n=13)	<i>Col4a3</i> ^{-/-} (n=5)	WT (n=13-15)	<i>Col4a3</i> ^{-/-} (n=9-10)
BW (g)	21.81 ± 2.09	17.62 ± 2.36****	23.25 ± 3.22+++	19.89 ± 0.66*,+++	27.56 ± 2.32***	26.11 ± 1.93***
HW (mg)	115.7 ± 16.64	115.6 ± 18.8	124.1 ± 20.7	117.9 ± 21.77	116.8 ± 16.57	128.1 ± 16.18
Tibia length (cm)	1.73 ± 0.08	1.73 ± 0.07	1.71 ± 0.07	1.64 ± 0.05++	1.75 ± 0.06	1.78 ± 0.04
HW/BW (mg/g)	5.31 ± 0.59	6.6 ± 0.87***	5.3 ± 0.49	6.2 ± 1.04	5.50 ± 0.52	5.41 ± 0.68**
HW/TL(mg/cm)	66.85 ± 8.86**	66.74 ± 11.03	72.44 ± 9.67+	71.89 ± 11.70	85.87 ± 14.29	79.25 ± 9.67
LW(Wet) (mg)	127.1 ± 15.88**	131.6 ± 25.5*	149.9 ± 17.67	160 ± 43.98	170.3 ± 27.12	178.3 ± 37.76
LW/BW (mg/g)	6.11 ± 1.04	7.47 ± 0.99**	6.54 ± 1.12	8.47 ± 2.57	6.21 ± 1.31	6.90 ± 1.59
LW/TL (mg/cm)	76.44 ± 10.84**	75.99 ± 14.83*	87.75 ± 9.75	97.81 ± 27.34	97.32 ± 16.95	100.31 ± 21.03
Female						
	WT (n=19)	<i>Col4a3</i> ^{-/-} (n=13-14)	WT (n=11-13)	<i>Col4a3</i> ^{-/-} (n=10-12)	WT (n=13-14)	<i>Col4a3</i> ^{-/-} (n=11)
BW (g)	17.23 ± 1.86**	15.58 ± 1.71**	17.74 ± 2.10+++	16.07 ± 0.73+++	21.39 ± 1.81	20.94 ± 1.56
HW (mg)	84.75 ± 13.21**	92.81 ± 14.98**,*	103.2 ± 10.77	101.8 ± 10.27	116.8 ± 16.57	128.1 ± 16.18
Tibia length (cm)	1.72 ± 0.11 ^ε	1.64 ± 0.08 [¥]	1.63 ± 0.07++++	1.62 ± 0.037 ⁺⁺⁺⁺	1.78 ± 0.07	1.76 ± 0.06
HW/BW (mg/g)	5.0 ± 0.59 ^ε	5.89 ± 0.76*	5.82 ± 0.64	6.22 ± 0.5	5.38 ± 0.80	6.16 ± 1.02
HW/TL(mg/cm)	49.26 ± 6.9 ^{εεεε,***}	56.34 ± 7.46***	63.25 ± 5.8	62.78 ± 6.25+	64.74 ± 8.35	72.81 ± 8.9
LW (Wet) (mg)	119.4 ± 22.08*	101.1 ± 15.83**,*εε	143 ± 37.15	151 ± 49.86	167.2 ± 45.28	167.4 ± 40.28
LW/BW (mg/g)	6.96 ± 1.22	7.22 ± 1.37	7.97 ± 1.96	8.6 ± 1.69	7.89 ± 2.12	7.95 ± 1.66
LW/TL (mg/cm)	69.46 ± 12.44*	68.69 ± 11.37 [¥]	86.62 ± 20.96	84.55 ± 16.26	94.89 ± 23.33	95.15 ± 22.51

BW: Body weight, HW: Heart weight, TL: tibia length, LW: lung weight, W: wet, D: dry, mg: miligrams, g: grams, cm: centimeters. Values are mean ± SD. *p<0.05, **p<0.01, ***p<0.001 and ****p<0.0001 compared *Col4a3*^{-/-} with their respective control (same strain), †p<0.05, ††p<0.01, †††p<0.001, ††††p<0.0001 differences between Balb/C strain and C57Bl/6 strain (WT Vs WT and *Col4a3*^{-/-} vs *Col4a3*^{-/-}), ^εp<0.05, ^{εε}p<0.01, ^{εεε}p<0.001, ^{εεεε}p<0.0001 differences between Balb/C strain and 129J (WT vs WT and *Col4a3*^{-/-} vs *Col4a3*^{-/-}), [¥]p<0.05, ^{¥¥}p<0.01, ^{¥¥¥}p<0.001, ^{¥¥¥¥}p<0.0001 difference between 129J and C57Bl/6 (WT Vs WT and *Col4a3*^{-/-} vs *Col4a3*^{-/-}).

Table S4. Pressure-volume analyses and hemodynamic data of male mice from 129J, Balb/C and C57Bl/6 background by ventricular catheterization

Echocardiography parameters	129J	Balb/C		C57Bl/6		
	8 weeks old	8 weeks old		20 weeks old		
	Pulmonary valve					
	WT (n=7)	<i>Col4a3</i> ^{-/-} (n=6)	WT (n=5)	<i>Col4a3</i> ^{-/-} (n=3)	WT (n=6)	<i>Col4a3</i> ^{-/-} (n=5)
ESPVR Slope	2.44 ± 0.7	3.6 ± 1.77	1.26 ± 0.36	3.3 ± 1.63*	1.35 ± 0.62	2.48 ± 0.4**
EDPVR Slope	0.10 ± 0.029	0.25 ± 0.16*,*	0.19 ± 0.105	0.12 ± 0.065	0.099 ± 0.033	107 ± 0.022
Stroke Work (mmHg×μL)	2150 ± 289.7	1462 ± 553.5*	1411±177.6 ^{ε, ¥¥}	1679 ± 376.7	2707 ±447	1994 ±252.8*
Cardiac Output (μL/min)	11717±952.2	7388 ± 2219 ^{***,*}	11254 ± 1307	11137 ± 2658	19833 ± 4255 ^{¥¥¥, +} ++++	14160 ±2625 ^{*,*,¥¥¥}
Stroke Volume (μL)	25.32 ± 1.96	16.42 ± 5.03 ^{***,*}	23.69 ± 2.88	26.55 ± 6.1	38.83 ± 8.51 ^{¥¥¥, +}	29.63 ± 4.13 ^{¥¥}
Volume Maximum (μL)	50.15± 8.11	48.8 ± 10.52	47.17 ± 8.82	49.3 ± 8.68	74.34 ± 18.96 ^{¥¥, +}	65.63 ± 7.48

Volume Minimum (μL)	22.64 ± 8.11	31.03 ± 9.20	23.47 ± 6.13	22.74 ± 3.13	35.51 ± 16.96	36 ± 9.16
End-systolic Volume (μL)	25.46 ± 9.4	33.91 ± 9.67	29.07 ± 8.47	31.21 ± 4.3	44.34 ± 15.76 [‡]	42.6 ± 11.82
End-diastolic Volume (μL)	48.61 ± 8.80	47.16 ± 10.48	46.1 ± 8.10	47.35 ± 7.72	73.06 ± 19.36 ^{‡‡, ††}	63.7 ± 7.86
Pressure Maximum (mmHg)	93.12 ± 5.92	97.17 ± 10.11 ^{€€}	84.17 ± 7.56	83.26 ± 6.75	93.67 ± 7.64	83.94 ± 10.99
Pressure minimum (mmHg)	2.27 ± 0.88 ^{€‡}	2.82 ± 2.23	8.30 ± 4.23	10.7 ± 5.68	8.32 ± 4.46	4.04 ± 2.56
Mean Pressure (mmHg)	36.47 ± 2.81	35.41 ± 7.34	41.2 ± 10.59	36.76 ± 6.8	43.72 ± 6.92	33.16 ± 8.29 [*]
Pressure Development (mmHg)	90.85 ± 6.48	94.34 ± 9.25	75.14 ± 3.81 [€]	69.9 ± 1.07 ^{€€}	85.36 ± 8.23	79.9 ± 9.51 [‡]
End-systolic Pressure (mmHg)	85.93 ± 5.82	93.03 ± 9.8	83.36 ± 7.47	80.57 ± 11.32	93.04 ± 7.76	71.45 ± 20.88 ^{*, ‡, ‡}
End-diastolic Pressure (mmHg)	5.02 ± 0.89 ^{€‡}	6.71 ± 2.75	14.32 ± 6.55	15.82 ± 7.49	12.29 ± 5.14	7.41 ± 3.12
Heart Rate (bpm)	462 ± 11.52	450.9 ± 17.83	476.6 ± 37.14	422.4 ± 68.37	511.7 ± 31.01	476.6 ± 38.13
Ejection Fraction (%)	53.47 ± 9.3	34.76 ± 10.25 ^{**, *}	53.89 ± 4.23	54.54 ± 4.15	56.37 ± 14.14	46.64 ± 8.90
Ea (mmHg/μL)	3.42 ± 0.28	6.15 ± 1.55 ^{**, ****}	3.58 ± 0.59	3.16 ± 0.95 ^{€€€}	2.52 ± 0.71	2.47 ± 0.78 ^{***}
Power Max (mmHg×μL/s)	5654 ± 1973	4601 ± 2510	10409 ± 5482	6174 ± 2834	13567 ± 5462	6137 ± 2988 [*]
dP/dt max (mmHg/s)	6416 ± 660	7235 ± 727 ^{*, €€}	5068 ± 469.5 [†]	4812 ± 1390	6818 ± 1446	6446 ± 661
dP/dt min (mmHg/s)	-7292 ± 970.5	-6978 ± 1925	-4818 ± 1124	-5342 ± 813.7	-6643 ± 2519	-6935 ± 1343
dV/dt max (μL/s)	605.9 ± 103.9	407.7 ± 148.8 [*]	606.3 ± 77.31	519.5 ± 86.13	1042 ± 213.7 ^{***, †††}	758.4 ± 167.7 ^{*, ‡, ‡}
dV/dt min (μL/s)	-800.4 ± 94.54	-569.5 ± 138.9 ^{*, *}	-681.7 ± 115.1	-784.8 ± 212.3	-1184 ± 350.4	-961.1 ± 290.9
P@dV/dt max (mmHg)	2.85 ± 1.33 ^{‡€}	4.00 ± 2.14	9.06 ± 4.87	11.31 ± 5.01	9.79 ± 5.06	4.68 ± 2.8
P@dP/dt max (mmHg)	47.36 ± 12.6	55.98 ± 12.55	38.74 ± 6.12	38.09 ± 4.93	51.49 ± 11.89	42.06 ± 14.05
V@dP/dt max (μL)	48.56 ± 9.41	47.92 ± 10.32	45.4 ± 8.32	48.48 ± 8.44	71.47 ± 17.34 ^{‡‡, ††}	64.17 ± 6.51
V@dP/dt min (μL)	23.26 ± 8.18	31.78 ± 9.19	23.75 ± 6.26	22.93 ± 3.21	35.83 ± 17.32	36.71 ± 9.04
Tau (ms)	6.49 ± 0.62	7.72 ± 2.15	10.24 ± 2.91	11.03 ± 3.91	9.03 ± 2.28	6.56 ± 1.41
dP/dt max (mmHg) occlusion	100.8 ± 55.41	197 ± 65.87 [*]	35.47 ± 20.81	56.29 ± 16.45 [€]	76.68 ± 45.34	99.06 ± 25.67
PRSW	70.66 ± 15.95	67.57 ± 12.53	39.53 ± 17.28	54.56 ± 4.95 [€]	56.69 ± 17.71	64.33 ± 11.65

ESPVR: End-systolic Pressure-Volume Relationship, EDPVR: End-diastolic Pressure-Volume Relationship; Ea: Arterial Elastance; P: Pressure, t: Time, V: Volume; Max: Maximum; Min: Minimum; Tau: Time Constant of LV Relaxation. Values are mean ± SD. *p<0.05, **p<0.01, ***p<0.001 and ****p<0.0001 compared Col4a3-/- with their respective control (same strain), †p<0.05, ††p<0.01, †††p<0.001, ††††p<0.0001 differences between Balb/C strain and C57Bl/6 strain (WT Vs WT and Col4a3-/- vs Col4a3-/-), €p<0.05, €€p<0.01, €€€p<0.001, €€€€p<0.0001 differences between Balb/C strain and 129J (WT vs WT and Col4a3-/- vs Col4a3-/-), ‡p<0.05, ‡‡p<0.01, ‡‡‡p<0.001, ‡‡‡‡p<0.0001 difference between 129J and C57Bl/6 (WT Vs WT and Col4a3-/- vs Col4a3-/-). Two *p<0.05, **p<0.01, ***p<0.001 and ****p<0.0001 compared Col4a3-/- with their respective control (same strain) using t-test (parameters with normal distribution) or Mann-Whitney test (for data following non normal distribution).

Table S5. Pressure-volume analyses and hemodynamic data of female mice from 129J, Balb/C and C57Bl/6 background by ventricular catheterization

Echocardiography parameters	129J		Balb/C		C57Bl/6	
	8 weeks old		8 weeks old		20 weeks old	
	Pulmonary valve					
	WT (n=8)	<i>Col4a3</i> ^{-/-} (n=9)	WT (n=6)	<i>Col4a3</i> ^{-/-} (n=6)	WT (n=6)	<i>Col4a3</i> ^{-/-} (n=5)
ESPVR Slope	2.88 ± 0.78 [‡]	3.07 ± 0.79 [€]	2.13 ± 0.62	1.7 ± 0.65	1.64 ± 0.53	1.2 ± 1.03
EDPVR Slope	0.12 ± 0.03	0.32 ± 0.20 [*]	0.13 ± 0.06	0.39 ± 0.26	0.16 ± 0.03	0.37 ± 0.16 ^{**}
Stroke Work (mmHg×μL)	1831 ± 465.9	1431 ± 538.2	1321 ± 412.7 ^{€,†}	1037 ± 173.9	2037 ± 241.7	1578 ± 104.8 ^{**}
Cardiac Output (μL/min)	9281 ± 2201 ^{‡‡}	7544 ± 2803 [‡]	9563 ± 2365 ^{††}	7961 ± 1565	14417 ± 2410	11417 ± 1015 [*]
Stroke Volume (μL)	22.25 ± 5.24	18.02 ± 5.44	21.2 ± 6.36	18.45 ± 2.49	30.41 ± 4.57 ^{‡,†}	23.63 ± 2.28 ^{**}
Volume Maximum (μL)	39.73 ± 5.76	39.86 ± 10.44	40.37 ± 11.79	37.66 ± 5.71	50.42 ± 5.79	52.81 ± 11.57
Volume Minimum (μL)	15.99 ± 5.39	20.73 ± 7.86	19.16 ± 6.92	19.2 ± 5.8	20 ± 2.15	29.18 ± 11.5
End-systolic Volume (μL)	17.89 ± 5.91	22.7 ± 7.94	23.08 ± 7.17	23.54 ± 6.76	24.73 ± 2.11	31.38 ± 11.35
End-diastolic Volume (μL)	37.4 ± 5.48	38.81 ± 9.94	39.44 ± 11.3	36.57 ± 5.41	49.45 ± 5.68	52.11 ± 11.84
Pressure Maximum (mmHg)	89.79 ± 5.11	89.43 ± 11.88 ^{€€}	79.94 ± 1.65	72.67 ± 8.37	91.6 ± 7.1	86.16 ± 4.0
Pressure minimum (mmHg)	1.99 ± 1.56 [‡]	3.48 ± 2.75	6.03 ± 1.8	6.4 ± 2.04	8.59 ± 6.3	6.83 ± 4.4
Mean Pressure (mmHg)	32.8 ± 2.3	36.01 ± 10.27	35.95 ± 4.73	34 ± 8.9	45.23 ± 11.36	39.51 ± 6.43
Pressure Development (mmHg)	87.8 ± 6.12 [€]	85.95 ± 10.77 ^{€€}	74.74 ± 4.1	66.26 ± 6.39 [*]	81.01 ± 2.14	79.34 ± 7.19
End-systolic Pressure (mmHg)	83.64 ± 5.9	84.06 ± 14.6	77.41 ± 3.8	68 ± 8.3 ^{*,€}	91.14 ± 7.42	78.76 ± 6.91 [*]
End-diastolic Pressure (mmHg)	4.24 ± 1.35 [€]	10.34 ± 4.62 [*]	9.79 ± 3.45	14.57 ± 9.55	16.38 ± 10.54	11.98 ± 5.22
Heart Rate (bpm)	418.9 ± 38.73	415 ± 73.26	457.6 ± 37.37	429.1 ± 33.93	473.3 ± 28.63	482.4 ± 19.06
Ejection Fraction (%)	57.81 ± 11.98	47.06 ± 12.13	54.29 ± 9.36	50.93 ± 9.51	63.41 ± 4.52	48.48 ± 13.85 [*]
Ea (mmHg/μL)	3.99 ± 1.13	5.05 ± 1.64	3.99 ± 1.41	3.71 ± 0.46	3.033 ± 0.28	3.35 ± 0.31
Power Max (mmHg×μL/s)	3539 ± 2866	5105 ± 4524	5476 ± 3080	5226 ± 3351	13117 ± 10621	8139 ± 2300
dP/dt max (mmHg/s)	6377 ± 543.4	5875 ± 15.07	5426 ± 904.1	3989 ± 489.6 [*]	6402 ± 1100	6610 ± 1416 ^{‡,††}
dP/dt min (mmHg/s)	-7453 ± 1205	-6159 ± 1905	-5414 ± 1348	-4722 ± 511.3	-5931 ± 1582	-6402 ± 1531
dV/dt max (μL/s)	448.2 ± 157.1	461.6 ± 136.8	486 ± 110	459.8 ± 109.7	827.4 ± 262.3 ^{‡‡,††}	639.9 ± 106.6
dV/dt min (μL/s)	-688 ± 179.9	-567.3 ± 193	-577.9 ± 219.6	-505.2 ± 127.1	-783.9 ± 95.49	-695.7 ± 66.62

P@dV/dt max (mmHg)	2.97 ± 1.49	4.60 ± 2.42	6.26 ± 1.79	6.6 ± 2.05	9.05 ± 6.16 [¥]	7.20 ± 4.45
P@dP/dt max (mmHg)	49.62 ± 4.78	49 ± 10.59	36.98 ± 5.33 [€]	33.82 ± 7.63 [€]	51.34 ± 5.20	42.87 ± 5.11 [*]
V@dP/dt max (µL)	38.55 ± 5.72	39.06 ± 10.03	39.28 ± 11.38	36.98 ± 6.29	47.89 ± 5.21	51.44 ± 11.91
V@dP/dt min (µL)	16.34 ± 5.57	21.24 ± 7.76	19.58 ± 6.75	19.38 ± 6 [†]	20.42 ± 2.23	33.07 ± 7.39 ^{***,*¥}
Tau (ms)	6.74 ± 0.73	9.33 ± 2.31 ^{**}	9.77 ± 3.82	8.98 ± 1.23	9.35 ± 3.23	8.3 ± 2.8
dP/dt max (mmHg) occlusion	88.51 ± 45.03	112.6 ± 54.09	95.3 ± 54.63	55.01 ± 15.82	90.83 ± 38.41	93.62 ± 28.92
PRSW	60.86 ± 10.03	57.08 ± 11.15	47.93 ± 6.81	38.06 ± 11.33	42.42 ± 16.18	42.54 ± 22.4

ESPVR: End-systolic Pressure-Volume Relationship, EDPVR: End-diastolic Pressure-Volume Relationship; Ea: Arterial Elastance; P: Pressure, t: Time, V: Volume; Max: Maximum; Min: Minimum; Tau: Time Constant of LV Relaxation. Values are mean ± SD. *p<0.05, **p<0.01, ***p<0.001 and ****p<0.0001 compared Col4a3^{-/-} with their respective control (same strain), †p<0.05, ††p<0.01, †††p<0.001, ††††p<0.0001 differences between Balb/C strain and C57Bl/6 strain (WT vs WT and Col4a3^{-/-} vs Col4a3^{-/-}), €p<0.05, €€p<0.01, €€€p<0.001, €€€€p<0.0001 differences between Balb/C strain and 129J (WT vs WT and Col4a3^{-/-} vs Col4a3^{-/-}), ¥P<0.05, ¥¥p<0.01, ¥¥¥p<0.001, ¥¥¥¥p<0.0001 difference between 129J and C57Bl/6 (WT Vs WT and Col4a3^{-/-} vs Col4a3^{-/-}). Two *p<0.05, **p<0.01, ***p<0.001 and ****p<0.0001 compared Col4a3^{-/-} with their respective control (same strain) using t-test (parameters with normal distribution) or Mann-Whitney test (for data following non normal distribution).