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2Supplemental Table 1 - *In vivo* cardiac function just prior to acute hypoxia

	C57BL/6J	FVB/NJ	DBA/2J	BALB/cJ	C3H/HeJ	129X1/SvJ	C57BL/10SnJ	129S1/SvImJ
ESp (mmHg)	96.1 ± 5.6	75.8 ± 2.0 *	88.9 ± 4.5	73.3 ± 2.9	85.3 ± 8.2	88.4 ± 5.9 *	107.5 ± 3.3	98.7 ± 4.3
EDp (mmHg)	7.2 ± 0.8	6.9 ± 1.5	11.3 ± 1.9 *	10.9 ± 0.9 *	6.9 ± 1.0	6.9 ± 1.4	6.0 ± 1.1	5.1 ± 0.9
HR (bpm)	605.3 ± 4.7	569.9 ± 12.7	527.2 ± 12.5	523.0 ± 14.5	572.5 ± 14.0	551.5 ± 4.8	597.9 ± 8.2	603.2 ± 9.9 *
+ dP/dt (mmHg/sec)	12451 ± 1085	9011 ± 543.5 *	8492 ± 249.4	5683 ± 646.7 *	9691 ± 1333	8702 ± 927.9 *	13190 ± 544.6	11129 ± 883.9
- dP/dt (mmHg/sec)	11557 ± 1354	8347 ± 448.4 *	8086 ± 288.5	5909 ± 702.6	7657 ± 522.1 *	9593 ± 1079	11701 ± 388.8	11242 ± 1240
Tau (msec)	5.7 ± 0.6	6.1 ± 1.2	8.0 ± 1.3 *	10.8 ± 1.0 *	6.2 ± 1.1	5.4 ± 0.9	4.2 ± 0.8	4.3 ± 0.7
Vmax (μL)	41.0 ± 5.8	35.5 ± 3.4	39.7 ± 3.0	25.44 ± 2.5 *	32.9 ± 4.8	36.8 ± 2.7	37.5 ± 3.0	36.5 ± 5.3
SV (μL)	25.4 ± 2.4	21.8 ± 1.3	21.9 ± 1.3	10.1 ± 1.8	20.2 ± 2.1	21.4 ± 1.7	24.9 ± 2.0	22.6 ± 2.8
EF (percent)	64.4 ± 3.8 *	63.5 ± 5.4	57.0 ± 5.2	38.7 ± 5.4	65.2 ± 8.2	58.7 ± 4.4	68.38 ± 6.0	63.6 ± 5.1
SW (mmHg*μL)	2045 ± 272.5	1333 ± 97.6	1486 ± 152.0	543.4 ± 146.6	1366 ± 230.6	1543 ± 203.7	2150 ± 182.3	1904 ± 296.6

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Parameters derived just before hypoxia for each strain. Parameters analyzed include end systolic pressure (ESp) LV end diastolic pressure (EDp), heart rate (HR), the positive derivative of pressure development (+ dP/dt), the negative derivative of pressure development (- dP/dt), tau, maximum LV volume (Vmax), stroke volume (SV), ejection fraction (EF), and stroke work (SW). * P < 0.05 vs. baseline values (from figure 4 and supplemental table 3) for the same strain by t-test.

1 Supplemental Table 2 - Flow rates of perfused hearts at baseline and following ischemia and reperfusion

	C57BL/6J	FVB/NJ	DBA/2J	BALB/cJ	C3H/HeJ	129X1/SvJ	C57BL/10SnJ	129S1/SvImJ
Baseline flow rate (mL/min)	2.1 ± 0.2	3.3 ± 0.5***	2.9 ± 0.5**	2.9 ± 0.2*	2.2 ± 0.1	2.4 ± 0.1	2.6 ± 0.1	2.3 ± 0.1
Flow rate @ 60 min. reperfusion (mL/min)	1.5 ± 0.1	1.8 ± 0.1	2.1 ± 0.1 *	1.8 ± 0.3	1.5 ± 0.1	1.5 ± 0.1	2.1 ± 0.2*	1.2 ± 0.1
% decrease in flow rate	29.2 ± 3.2	44.3 ± 6.3	30.0 ± 3.7	38.6 ± 4.9	32.4 ± 3.1	36.9 ± 3.8	24.0 ± 3.4	44.3 ± 4.6*
Normalized flow rate (ml/min*g)	12.2 ± 0.8	18.8 ± 2.8***	13.3 ± 0.7	16.3 ± 1.5*	12.1 ± 0.4	13.7 ± 0.8	13.2 ± 0.3	15.0 ± 0.6
Normalized flow rate @ 60 min. reperfusion	8.6 ± 0.6	10.1 ± 0.8	9.5 ± 0.7	10.1 ± 1.7	8.2 ± 0.6	8.6 ± 0.6	10.6 ± 0.6	8.1 ± 0.6

2 Baseline coronary flow rates and coronary flow rates at 60 minutes reperfusion for inbred strains tested. Flow rates were also normalized to average heart weight for each
3 strain. All values expressed as mean ± SEM. Normalized body weight = flow rate divided by heart weight. *, **, *** = P < 0.05, 0.01, 0.001 compared to C57BL/6J mice,
4 respectively. n = 5-7 for each group.
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Supplemental Table 3 – *In vivo* cardiac function at baseline

	C57BL/6J	FVB/NJ	DBA/2J	BALB/cJ	C3H/HeJ	129X1/SvJ	C57BL/10SnJ	129S1/SvImJ
LVEDP (mmHg)	7.0 ± 0.6	6.7 ± 1.0	7.3 ± 0.8	6.6 ± 0.6	4.9 ± 0.7	4.6 ± 0.6	5.9 ± 1.0	4.7 ± 0.3
PRSW	94.93 ± 8.2	64.33 ± 4.3	73.90 ± 7.0	79.35 ± 6.3	84.1 ± 10.4	109.7 ± 23.4	125.3 ± 25.2	90.1 ± 8.4
SV (μL)	21.5 ± 2.6	20.5 ± 1.2	23.5 ± 1.4	14.7 ± 1.8 *	19.7 ± 1.2	22.1 ± 1.0	22.8 ± 1.0	20.6 ± 1.4
SW (mmHg * μL)	1878 ± 227.4	1377 ± 49.2	1666 ± 165.1	1030 ± 174.0 *	1557 ± 104.8	1936 ± 117.2	2005 ± 166.2	1699 ± 200.0

Hemodynamic performance at baseline. Parameters include LV end diastolic pressure (LVEDP), preload recruitable stroke work (PRSW), stroke volume (SV), and stroke work (SW). All data are mean ± sem. Statistics were performed using a 1 way ANOVA with Dunnett’s post hoc analysis comparing each strain to C57BL/6J, * P < 0.05.

1 Supplemental Table 4 – Whole body morphometric analysis of inbred mouse strains

	C57BL/6J	FVB/NJ	DBA/2J	BALB/cJ	C3H/HeJ	129X1/SvJ	C57BL/10SnJ	129S1/SvImJ
Body weight (BW, g)	30.3 ± 0.9	26.8 ± 0.5	30.3 ± 1.2	30.0 ± 0.9	29.0 ± 1.1	29.0 ± 0.6	28.6 ± 1.3	24.0 ± 0.5***
Tibia length (TL, mm)	17.3 ± 0.1	18.5 ± 0.4*	17.9 ± 0.4	17.2 ± 0.3	17.3 ± 0.2	17.6 ± 0.2	17.2 ± 0.2	17.7 ± 0.1
Heart weight (HW, mg)	137 ± 3.7	125.5 ± 3.5	173 ± 8.5***	143 ± 4.7	117.8 ± 4.1*	143.3 ± 4.2	144 ± 6.0	105.5 ± 4.2***
HW/BW (mg/g)	4.5 ± 0.1	4.8 ± 0.1	5.9 ± 0.3***	4.8 ± 0.3	4.1 ± 0.2	4.9 ± 0.1	5.1 ± 0.3	4.3 ± 0.2
BW/TL (mm/g)	1.8 ± 0.1	1.5 ± 0.03**	1.7 ± 0.1	1.7 ± 0.1	1.7 ± 0.1	1.7 ± 0.03	1.7 ± 0.1	1.4 ± 0.03***
HW/TL (mg/mm)	7.9 ± 0.2	6.8 ± 0.2	9.7 ± 0.5***	8.3 ± 0.3	6.8 ± 0.2*	8.1 ± 0.2	8.4 ± 0.4	6.0 ± 0.2***

2 Body weight, tibia length, heart weight and derivative parameters for inbred strains tested. All values expressed as mean ± SEM. *, **, *** = P < 0.05, 0.01, 0.001
3 compared to C57BL/6J mice, respectively. n = 5-9 for each group.

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1 Supplemental Table 5 - *In vivo* cardiac function during esmolol infusion

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	C57BL/6J	FVB/NJ	DBA/2J	BALB/cJ	C3H/HeJ	129X1/SvJ	C57BL/10SnJ	129S1/SvImJ
LVEDP (mmHg)	9.3 ± 1.0	10.0 ± 1.2	11.4 ± 1.4	11.2 ± 0.7	8.9 ± 0.7	7.5 ± 0.7	8.7 ± 1.4	6.4 ± 1.1
HR (bpm)	503.6 ± 6.6	445.7 ± 16.9 *	446.2 ± 7.3	437.2 ± 17.6*	465.9 ± 20.3	495.7 ± 2.4	497.5 ± 5.2	507.6 ± 13.0
Vmax (μL)	49.3 ± 5.0	44.5 ± 3.5	43.5 ± 2.3	39.0 ± 4.9	30.5 ± 1.5 *	42.5 ± 3.4	43.0 ± 2.4	42.2 ± 4.6
Tau (sec)	8.3 ± 0.8	9.0 ± 0.8	9.7 ± 1.0	11.7 ± 0.4	32.4 ± 5.6 *	10.0 ± 1.0	7.6 ± 0.6	5.9 ± 0.7
SW (mmHg * μL)	678.4 ± 105.7	437.3 ± 66.0	696.2 ± 68.3	237.8 ± 25.0*	58.6 ± 22.5*	380.4 ± 78.6	771.5 ± 101.9	1162 ± 197.2*

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Hemodynamic performance during esmolol infusion. Mean data are shown for cardiac performance at 3 minutes into the esmolol infusion. Parameters analyzed include LV end diastolic pressure (LVEDP), heart rate (HR), maximum LV volume (Vmax), the time constant for isovolumic relaxation (Tau), and stroke work (SW). All data are mean ± sem. Statistics were performed using a 1 way ANOVA with Dunnett's post hoc analysis comparing each strain to C57BL/6J, * P < 0.05.

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2Supplemental Table 6 - *In vivo* cardiac function during acute hypoxia

	C57BL/6J	FVB/NJ	DBA/2J	BALB/cJ	C3H/HeJ	129X1/SvJ	C57BL/10SnJ	129S1/SvImJ
LVEDP (mmHg)	6.7 ± 1.0	9.2 ± 1.1	11.3 ± 1.4	11.9 ± 0.8*	6.8 ± 1.4	7.3 ± 1.6	6.0 ± 1.5	6.4 ± 1.1
HR (bpm)	576.4 ± 14.5	586.2 ± 17.8	519.9 ± 18.9	541.7 ± 12.3	595.3 ± 12.6	583.1 ± 9.3	575.4 ± 10.3	586.2 ± 37.3
Vmax (μL)	33.9 ± 4.6	35.3 ± 2.8	43.0 ± 3.4	25.6 ± 1.6	31.9 ± 2.6	38.3 ± 2.4	36.4 ± 5.3	39.1 ± 4.8
Δ LVEDP (mmHg)	-0.2 ± 0.3	1.0 ± 1.3	-0.006 ± 0.7	1.0 ± 0.4	-0.3 ± 1.4	0.4 ± 0.4	-0.5 ± 0.5	1.3 ± 0.4
Δ HR (bpm)	-26.8 ± 14.7	20.4 ± 18.2	-7.4 ± 10.0	18.7 ± 14.8	22.8 ± 12.9	31.6 ± 10.1	-22.5 ± 9.0	-12.5 ± 30.8
Δ -dP/dt (mmHg/sec)	-4693 ± 790.3	-713.5 ± 456.8*	-2140 ± 764.0	-340.0 ± 746.3*	-1072 ± 392.2*	526.2 ± 929.4*	-5358 ± 702.9	197.7 ± 1425*
Δ Vmax (μL)	-1.8 ± 1.7	-0.1 ± 3.4	3.3 ± 1.1	-2.1 ± 1.3	-1.5 ± 4.6	1.5 ± 1.4	-2.5 ± 3.0	2.6 ± 0.9

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Hemodynamic performance during hypoxia. Mean data are shown for cardiac performance at 6:40 into the hypoxic challenge and the delta change from the start of hypoxia (see supplemental Table 1). Parameters analyzed include LV end diastolic pressure (LVEDP), heart rate (HR), the negative derivative of pressure development (-dP/dt), and the maximum LV volume (Vmax). All data are mean ± sem. Statistics were performed using a 1 way ANOVA with Dunnett's post hoc analysis comparing each strain to C57BL/6J, * P < 0.05.