Online Supplement

An essential role for ΔFosB in the median preoptic nucleus in the sustained hypertensive effects of intermittent hypoxia.

Abbreviated title: MnPO ΔFosB contributes to IH-induced hypertension

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Supplementary Table 1: Average baseline recordings obtained from 0800-1600 h during the light phase exposure to intermittent hypoxia (IH) and during the dark phase (DK) for each group.

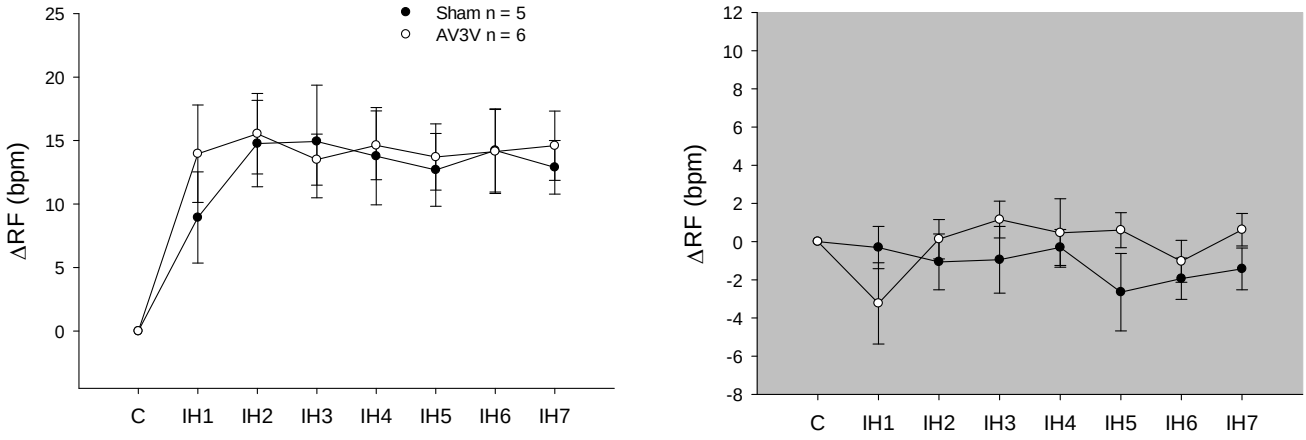
	n		MAP (mmHg)	HR (bpm)	RR (bpm)
Sham	5	IH	97 ± 2	316 ± 13	87 ± 2
		DK	102 ± 4	384 ± 12	99 ± 2
AV3V	6	IH	99 ± 3	313 + 8	83 ± 2
		DK	104 ± 3	381 ± 9	97 ± 2

Supplementary Table 2: Average baseline recordings obtained from 0800-1600 h during the light phase exposure to intermittent hypoxia (IH) and during the dark phase (DK) for each group.

	n		MAP (mmHg)	HR (bpm)	RR (bpm)	Act (cpm)
CON	13	IH	91 ± 1.3	352 ± 3	106 ± 1	1.3 ± 0.2
		DK	96 ± 1.2	405 ± 5	106 ± 1	5.7 ± 0.6
CIH	16	IH	93 ± 2.3	340 ± 4	102 ± 2*	0.9 ± 0.1
		DK	98 ± 2.5	396 ± 6	103 ± 1	3.4 ± 0.4*
CIH + GFP	17	IH	99 ± 1.4*	323 ± 4**	99 ± 2*	1.5 ± 0.2
		DK	102 ± 1.0	389 ± 4*	104 ± 2	4.8 ± 0.5
CIH + ΔJunD	12	IH	98 ± 1.3*	324 ± 5*	92 ± 2*	1.3 ± 0.2
		DK	103 ± 1.3*	392 ± 8	101 ± 2	4.1 ± 0.5

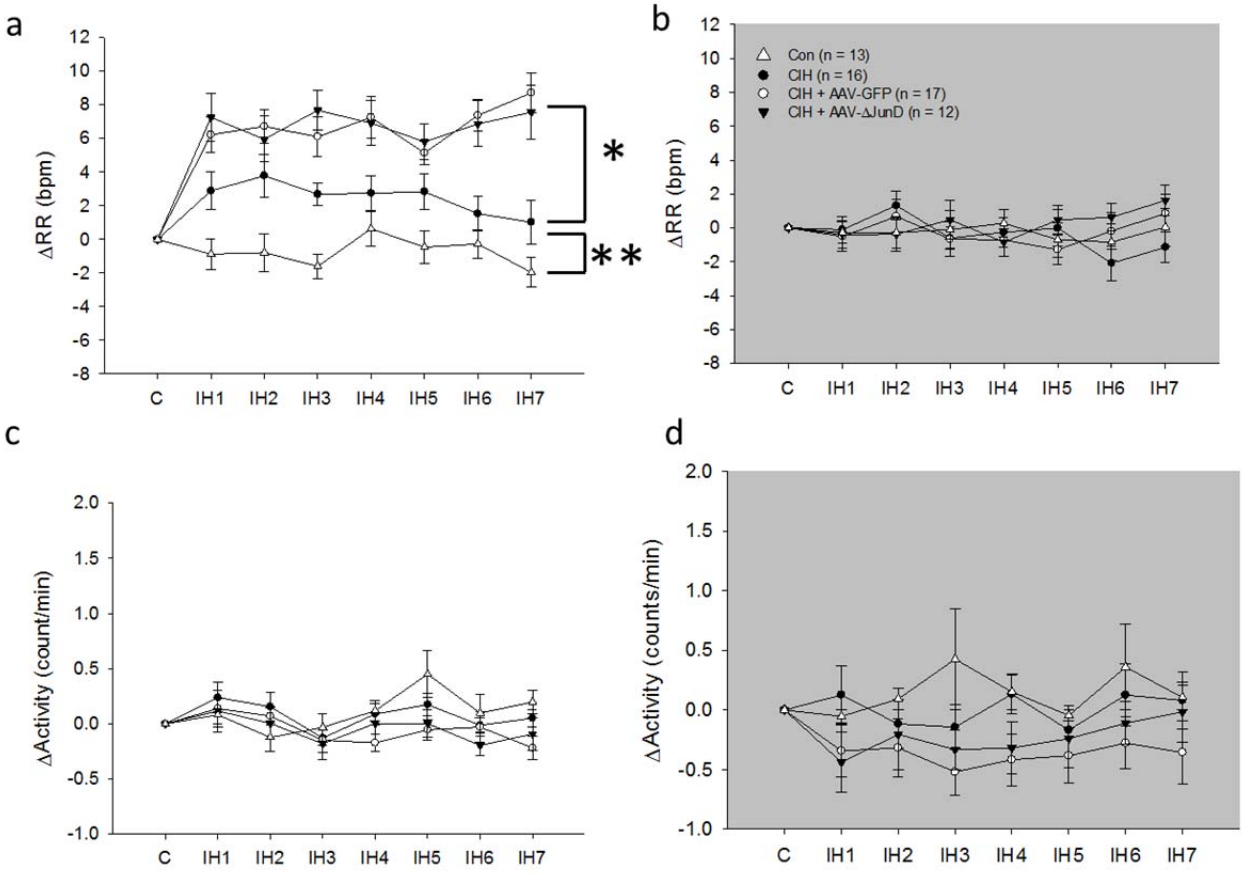
* $P < 0.05$ from CON. ** $P < 0.05$ from CIH. One-way ANOVA and Student-Newman-Keuls tests.

Supplementary Figure 1 – Cunningham et al.



Supplementary Figure1: Changes in respiratory frequency during intermittent hypoxia exposure (left) and during the normoxic dark phase (right) in sham lesioned and AV3V lesioned rats. There were no differences between the groups for either time period.

Supplementary Figure 2 – Cunningham et al.



Supplementary Figure 2: (a) During intermittent hypoxia exposure uninjected rats exposed to CIH demonstrated changes in respiratory rate significantly higher than normoxic controls while CIH rats injected with the two viral vectors demonstrated increases in respiratory rate that were greater than the other two group but not different from each other. (b) There were no significant differences among the 4 groups for respiratory rate recorded during normoxia during the dark phase. (c & d) There were no significant differences among groups for activity during intermittent hypoxia exposure or the normoxic dark phase. Data were analyzed by two-way repeated measures ANOVA. ** is different from control. * is different from control and CIH.

Symbol	Fold diff. (NS)	p value	Alias(es)
Tnf*	-1.01	0.963	TNF-α, cachectin
Grasp*	1.58	0.061	Tamalin
Bdnf*	1.10	0.833	neurotrophin
Nfkbia	1.25	0.155	IKB-a, MAD-3
Creb1	1.01	0.900	CREB
Agtr2*	1.16	0.645	AT2R
Aplnr*	-1.97	0.103	AGTRL1
Agt	-1.04	0.762	
Gad1	1.87	0.140	GAD67
Gad2	1.72	0.214	GAD65
Gria1	1.38	0.235	GluR1, GluR-A
Gria2	1.30	0.208	GluR2, GluR-B
Grin1	1.07	0.606	NR1, NMDAR1
Grin2b	1.23	0.076	NR2B, NMDAR2B
Gpx1	-1.03	0.696	CGPX
Gpx4	1.13	0.324	PHGPX
Sod1	-1.01	0.915	IC-SOD
Sod2	-1.06	0.783	MT-SOD
Sod3	1.12	0.515	EC-SOD
Prdx1	-1.06	0.746	Tdpx2, NKEFA
Prdx4	-1.15	0.143	TDPRXA0372
Prdx5	1.12	0.526	PRDXPMP20
Ptgs1*	1.20	0.335	COX-1, PH2-1
Nox4*	1.62	0.487	RENOX
Noxa1*	-1.20	0.599	p51NOX
Hmox1*	-1.15	0.292	HO1
Hyou1	1.15	0.324	ORP150
Adm*	-1.18	0.584	ADM
Ece1	1.07	0.428	ECE
Igf2	-1.07	0.753	SOM-A
Igf1r	1.06	0.427	IGFI-R
Igfbp1*	-1.10	0.749	IBP1
Ppara*	-1.38	0.423	PPAR, NR1C1
Vegfa	1.21	0.063	VEGF-a
Bcl2	1.21	0.169	
Hif3a*	1.38	0.169	HIF-3α, PASD7
Hif1a	1.10	0.206	MOP1
Mapk14*	1.28	0.070	p38MAPK, p38-α, CSBP1
Hspa5	1.13	0.200	GRP-78, BiP
Hif1an	-1.12	0.505	FIH-1

Symbol	Fold diff. (NS)	p value	Alias(es)
Map3k1*	1.28	0.163	MEKK1, MAPKKK1
Map2k5	1.23	0.072	MEK5, MAPKK5
Nras	1.15	0.201	NRAS-1, NS6
Kras	1.09	0.706	KRAS-1, NS3
Rac1	1.10	0.430	p21-Rac1
Mapk1	1.07	0.424	p42MAPK, ERK-2
Mapk3	1.07	0.413	p44MAPK, ERK-1, p44ERK
Mapk6	1.01	0.906	p97MAPK, ERK-3
Mapk7*	1.23	0.088	ERK-5, BMK-1
Mapk8	1.04	0.842	JNK1, SAPK1, JNK-46
Mapk12	1.15	0.166	ERK6, SAPK3, MAPK-p38γ
Ccl11*	1.07	0.810	SCYA11, eotaxin
Ccl22*	1.07	0.810	SCYA22, MDC(1-69)
Ccl24*	1.49	0.301	Ckb-6, MPIF2, SCYA24, eotaxin-2
Ccl7*	1.16	0.587	SCYA7, MCP-3
Cxcl10*	1.54	0.565	SCYB10, CRG-2, IP-10
Ccr1*	1.30	0.398	RANTES-R, MIP-1α-R
Ccr3*	-1.09	0.758	MIP-1α-RL2
Ccr5	1.30	0.155	
Cx3cr1	1.25	0.064	fractalkine receptor
Il1a*	1.79	0.181	IL-1α, IL1, IL1F1, hematopoietin-1
Il1b*	1.09	0.771	IL-1β
Il6*	-1.07	0.809	BSF2, IFNβ2
Lep*	1.07	0.810	OB
Il4*	1.25	0.470	BCGF1, binetrakin, BSF1
Il5*	1.07	0.810	TRF, EDF, BDF1
Il10*	1.07	0.810	CSIF, IL10A
Il13*	1.07	0.810	p600, TCAP
Il1r1*	-1.07	0.746	p80, IL-1Rα
Il1r2*	1.07	0.810	IL-1Rβ
Tnfrsf1a	-1.15	0.408	p55-R, p60, TNF-R1, CD120a
Tnfrsf1b*	1.16	0.494	p75, TNF-R2, CD120b
ob-r*	-1.62	0.188	FA, OB-R, DB
Il8rb*	1.07	0.810	(cxcr2 in humans)
Il6st	1.10	0.239	gp130, IL6-Rβ, IL6R2
Ren*	1.10	0.713	AGTase
Prkaa1	-2.50	0.207	AMPK-α1
Il6ra*	-1.13	0.562	IL6R1, gp80
Agtr1b*	1.07	0.810	AT1bR, AT2R1B, AT3R
JunD	-1.10	0.499	JunD1, AP-1(inhibitor)

Supplementary Figure 3: Genes with consensus AP-1 regulatory domains that were not affected by CIH. MnPO samples were obtained from normoxic controls and uninjected rats exposed to CIH for 7 days. Data are expressed as fold differences. Samples from individual rats were analyzed separately. n = 5 per group. * indicate genes with an average Ct> 30.