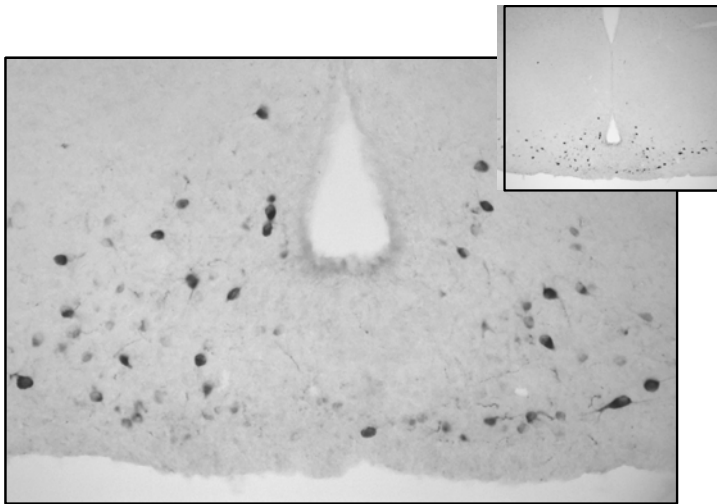


Supplemental Table 1

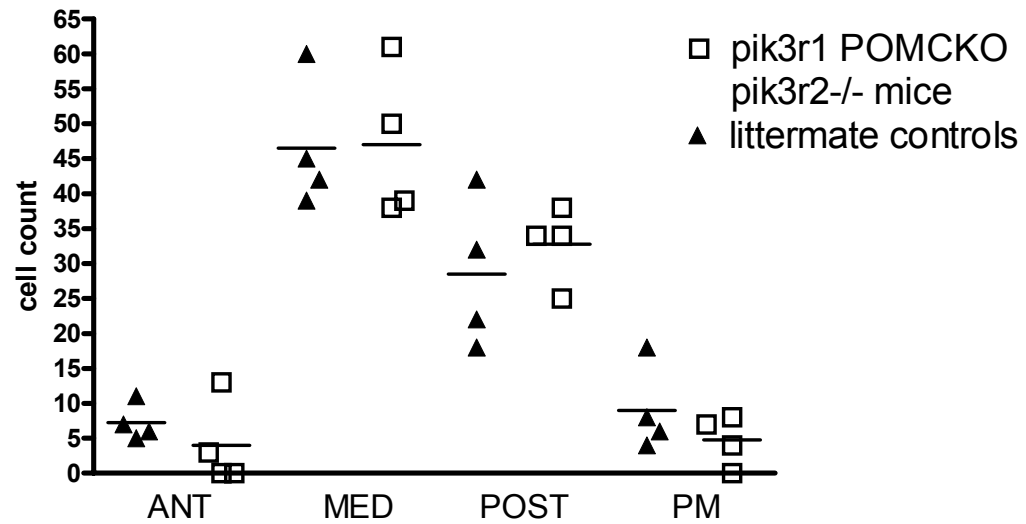
	Size (pF)	Vm (mV)	Firing (Hz)	Input Resistance (MΩ)
Wildtype	13.8 ± 0.5	-4 .7 ± 0.8	1.2 ± 0.1	879 .3 ± 9 .47
<i>pik3r1 POMCKO</i>	13.3 ± 0.9	-4 .1 ± 1.2	1.3 ± 0.2	
<i>pik3r1 POMCKO</i> <i>pik3r2-/-</i>	12.7 ± 0.5	-4 .7 ± 1.6	1.3 ± 0.1	1050 ± 102 .5

Supplemental Figure 1

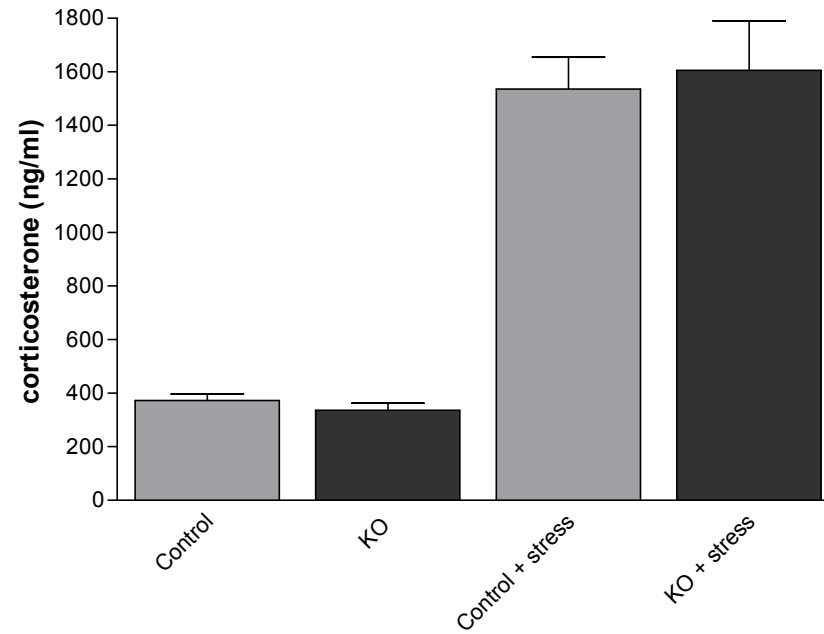
a.



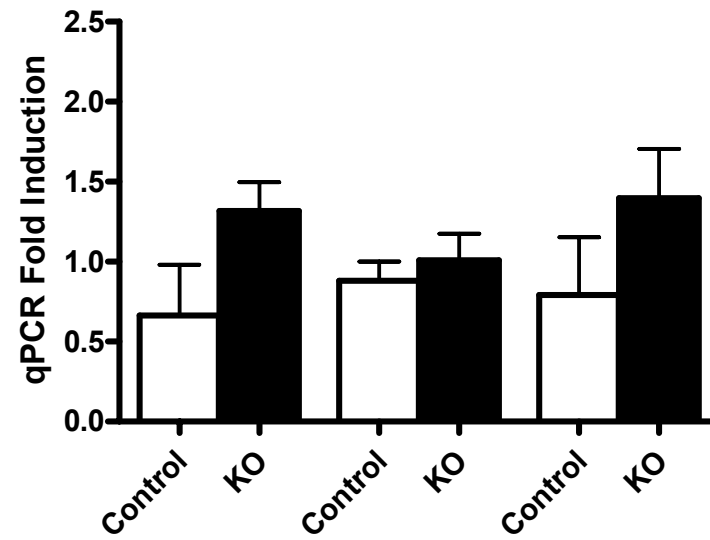
b.



Supplemental Figure 2



Supplemental Figure 3



Supplemental Figure 1. POMC cell morphology and numbers are similar in control and *pik3r1 POMCKO pik3r2^{-/-}* hypothalami. (A) Immunohistochemical stain for β -endorphin in a *pik3r1 POMCKO pik3r2^{-/-}* medial hypothalamus. (B) POMC cell counts in *pik3r1 POMCKO pik3r2^{-/-}* (open squares) and littermate controls lacking POMC-cre expression (filled triangles) in mouse hypothalami at four levels (n=4). β -endorphin staining cells were counted on a single side per section. ANT = Bregma -2.3 mm, Interaural 6.7 mm, MED = Bregma -3.14 mm, Interaural 5.86 mm, POST = Bregma -3.8 mm, Interaural 5.2 mm, PM (premamillary) = Bregma -4.52 mm, Interaural 4.48 mm.

Supplemental Figure 2. Normal corticosterone secretion in *pik3r1 POMCKO pik3r2^{-/-}* mice. (A) Corticosterone levels (ng/ml) of male littermate control (n = 6) and *pik3r1 POMCKO pik3r2^{-/-}* mice (n = 8) were studied under basal conditions after three days of individual housing. (B) Corticosterone levels in male mice after 30 minutes of housing with novel males. Difference between basal and stressed: $p < 0.0001$ for both groups. No significant difference exists between the *pik3r1 POMCKO pik3r2^{-/-}* mice and littermate controls under either condition. Data are given as mean \pm SEM.

Supplemental Figure 3. Hypothalamic neuropeptide expression in young mice. (B) NPY, AgRP and POMC expression in hypothalami from 8 week old male control or *pik3r1 POMCKO pik3r2^{-/-}* mice (n = 4) as measured by qPCR.