

Hierarchy in the home cage affects behaviour and gene expression in group-housed C57BL/6 male mice

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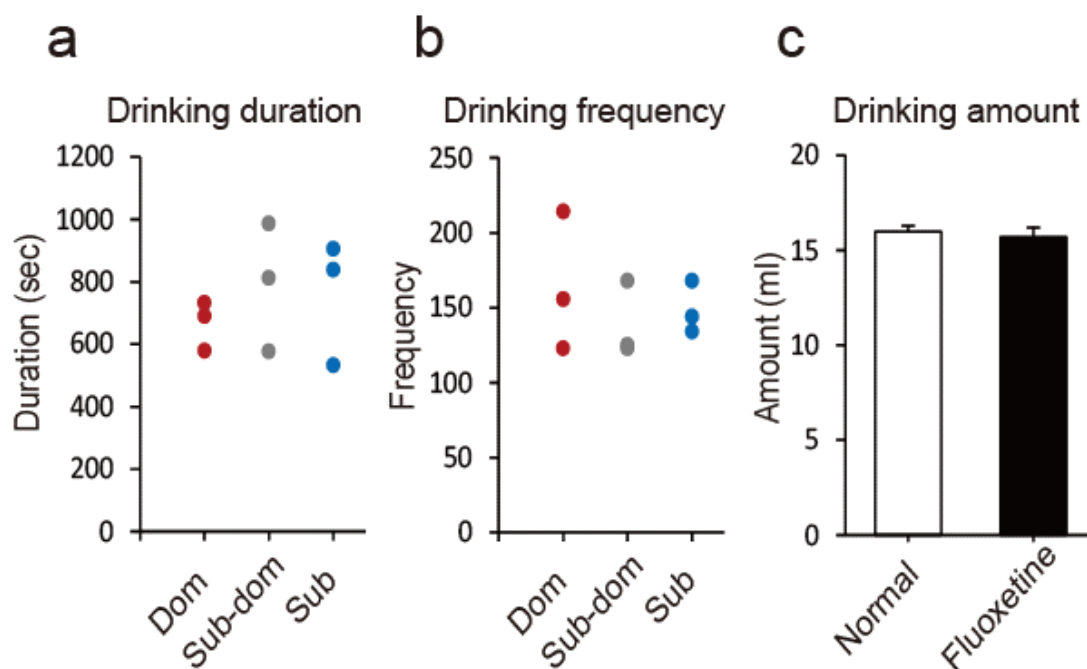


Figure S1. Comparison of fluid intake during fluoxetine treatment

(a and b) Drinking duration and frequency for group-housed mice with different social ranks ($n=3$ cages). We measured duration and frequency of fluid intake by video observation. Fluid intake was observed using 24-h videos recorded between 18:00 of day 12 to 18:00 of day 13 of fluoxetine treatment and during normal water treatment before the fluoxetine treatment. Drinking behaviour was detected when the mouth of the animal touched the nozzle of the water or fluoxetine fluid bottles. (c) Amount of normal water and fluoxetine-containing water consumed before and during the fluoxetine treatment, respectively ($n=16$ cages).

Table S1. Correlation between frequency of agonistic behaviour and gene expression in the brain

		Offensive behaviors		Defensive behaviors	
		Ag act	Sub act	Ag received	Sub react
Hypothalamus	<i>Crh</i>	#P=0.0607, r=-0.5557	#P=0.0568, r=-0.5627	#P=0.0520, r= 0.05719	n.s.
Hippocampus	<i>Bdnf</i>	*P=0.0142, r= 0.5990	n.s.	n.s.	n.s.
	<i>Trkb</i>	n.s.	n.s.	n.s.	n.s.
	<i>Gr</i>	n.s.	n.s.	n.s.	n.s.
	<i>Creb1</i>	#P=0.0502, r=-0.5135	*P=0.0102, r=-0.6401	n.s.	n.s.
	<i>5-Htr1a</i>	n.s.	n.s.	# P=0.0878, r= 0.4558	n.s.
	<i>5-Htr1b</i>	n.s.	n.s.	n.s.	n.s.
	<i>5-Htr2a</i>	n.s.	#P=0.0859, r=-0.4427	n.s.	n.s.
	<i>5-Htr2c</i>	n.s.	n.s.	n.s.	n.s.
	<i>5-Htr3a</i>	n.s.	n.s.	n.s.	n.s.
	<i>5-Htr4</i>	*P=0.0330, r=-0.5344	*P=0.0274, r=-0.5496	n.s.	*P=0.0314, r= 0.5386
	<i>5-Htr7</i>	n.s.	n.s.	n.s.	n.s.

Correlation between frequency of agonistic behaviour and gene expression level were examined by Spearman's rank correlation test. Cells shaded in green and red indicate the *P*-values were less than 0.1 and 0.05, respectively.

Table S2. Primer sequences used in the study

Gene	Forward primer	Reverse primer	Reference
<i>Crh</i>	Mm01293920_s1		purchased from Applied Biosystems
<i>Bdnf</i>	Mm04230607_s1		purchased from Applied Biosystems
<i>Trkb</i>	AAGGACTTTCATCGGGAAGCTG	TCGCCCTCCACACAGACAC	PMID: 21038447
<i>Creb1</i>	GGAATCTGGAGCAGACAACC	ATAACGCCATGGACCTGGAC	PMID:20002201
<i>Gr</i>	CAAAGCCGTTTCACTGTCC	ACAATTTCACTGCCACC	PMID:12714642
<i>5-Htr1a</i>	Mm00434106_s1		purchased from Applied Biosystems
<i>5-Htr1b</i>	TATCACCTGTTGCACTGCTT	GAGATGGAGAAGACCCACAC	PMID:20002201
<i>5-Htr2a</i>	AGAACCCCATTCACCATAGC	ATCCTGTAGCCCGAAGACTG	PMID:20002201
<i>5-Htr2c</i>	GATTGGACTGAGGGACGAAA	ATGAAGAATGCCACGAAGGA	PMID:20002201
<i>5-Htr3a</i>	CTTCCCCTTTGATGTGCAG	CCACTCGCCCTGATTTATG	PMID:20002201
<i>5-Htr4</i>	TTCCCTGGACAGGTATTACGC	ATAGCCAAGCCAGAGGAAAG	PMID:16037544
<i>5-Htr7</i>	TTCTGCAACGTCTTCATCG	ATTCTGCCTCACGGGGTA	PMID:20002201
<i>Gapdh</i>	TGTGTCCGTCGTGGATCTGA	TTGCTGTTGAAGTCGCAGGAG	PMID:17140451