

# Supporting Information

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**Table S1. Order of infusions and drug treatments for the entire study**

Experimental block	Group	Prefrontal area infused on day 1	Responses per group per session, day 1, mean $\pm$ SEM	Reward only on day 1	Reward and punishment on day 1	Saline/diazepam pretreat	Subcortical area inactivated on day 2	Responses per group per session, day 2, mean $\pm$ SEM
Block 1 not counterbalanced	antOFC	antOFC	154.8 $\pm$ 15.00	Saline				188.5 $\pm$ 13.50
	vIPFC	vIPFC	125.5 $\pm$ 45.68	Saline				150.5 $\pm$ 42.29
	antOFC	antOFC	178.5 $\pm$ 25.84	Mus/bac				181.8 $\pm$ 22.90
	vIPFC	vIPFC	141.8 $\pm$ 46.57	Mus/bac				155.0 $\pm$ 41.88
	antOFC	antOFC	163.0 $\pm$ 27.04		Saline			157.0 $\pm$ 26.04
	vIPFC	vIPFC	145.8 $\pm$ 47.69		Saline			124.3 $\pm$ 45.80
	antOFC	antOFC	177.5 $\pm$ 27.96		Mus/bac			192.3 $\pm$ 51.65
	vIPFC	vIPFC	166.4 $\pm$ 43.30		Mus/bac			123.5 $\pm$ 38.98
Block 2 counterbalanced	antOFC	antOFC	178.0 $\pm$ 41.68		Mus/bac	Saline, day 1		214.0 $\pm$ 24.88
	vIPFC	vIPFC	155.5 $\pm$ 71.28		Mus/bac	Saline, day 1		146.75 $\pm$ 38.65
	antOFC	antOFC	176.5 $\pm$ 24.46		Mus/bac	Diazepam, day 1		189.0 $\pm$ 22.70
	vIPFC	vIPFC	157.8 $\pm$ 24.46		Mus/bac	Diazepam, day 1		146.5 $\pm$ 31.67
	antOFC	antOFC	197.0 $\pm$ 21.50		Mus/bac	Saline, day 2		226.3 $\pm$ 19.12
	antOFC	antOFC	181.8 $\pm$ 22.90		Mus/bac	Diazepam, day 2		177.2 $\pm$ 20.43
Block 3 counterbalanced	antOFC		138.3 $\pm$ 8.29		No infusion		Hippocampus	176.0 $\pm$ 7.21
	antOFC	antOFC	153.0 $\pm$ 14.90		Mus/bac		Hippocampus	103.3 $\pm$ 21.34
	antOFC		163.7 $\pm$ 29.03		No infusion		Amygdala	165.0 $\pm$ 8.32
	antOFC	antOFC	170.0 $\pm$ 21.37		Mus/bac		Amygdala	205.0 $\pm$ 37.68
	antOFC	antOFC	227.7 $\pm$ 27.60		Mus/bac		Amyg/Hipp disconnection	185.7 $\pm$ 11.86

In all cases, day 2 was reward only. Amyg/hipp, amygdala/hippocampus; mus/bac, 0.5  $\mu$ L of 0.1 mM muscimol/1.0 mM baclofen infused 20 min before testing; antOFC, anterior orbitofrontal cortex; saline, 0.5  $\mu$ L of saline infused 20 min before testing; vIPFC, ventrolateral prefrontal cortex.