

Table S1. Number of BXD mice from each strain tested on each of the eight cocaine doses (top) and carrying the B6 or D2 allele at each of the three QTL (bottom)

Strain	Cocaine dose (mg/kg/infusion)								Analysis	
	0.032 m/f	0.056 m/f	0.1 m/f	0.18 m/f	0.32 m/f	0.56 m/f	1.0 m/f	1.8 m/f	Acq.	DR Curve
BXD1	-/3	-/3	-/3	-/3	-/3	-/3	-/3	-/3	yes	yes
BXD2	-/-	-/-	-/-	-/-	-/-	1/-	1/-	1/-	yes	-
BXD9	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	yes	yes
BXD11	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	yes	yes
BXD13	1/-	1/-	1/-	1/-	1/1	1/1	1/1	1/1	yes	yes
BXD14	-/2	-/4	-/4	-/4	-/4	-/4	-/4	-/4	yes	yes
BXD15	1/-	1/-	1/-	1/-	1/-	1/1	1/-	1/-	yes	yes
BXD19	-/-	-/-	-/-	-/-	-/-	1/-	-/-	1/-	yes	-
BXD20	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	yes	yes
BXD27	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	yes	yes
BXD28	-/-	-/-	1/-	1/-	1/-	1/-	1/-	1/-	yes	-
BXD29	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	yes	yes
BXD31	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	yes	yes
BXD32	2/-	2/-	2/-	2/-	2/-	2/-	2/-	2/-	yes	yes
BXD33	1/-	1/-	1/-	2/-	2/-	2/-	2/-	2/-	yes	yes
BXD34	3/2	3/2	3/2	3/2	3/2	3/2	3/2	3/2	yes	yes
BXD39	2/-	2/-	2/-	2/-	2/-	2/-	2/-	2/-	yes	yes
BXD40	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	yes	yes
BXD43	1/-	2/-	2/-	2/-	2/-	2/-	2/-	2/-	yes	yes
BXD50	-/1	-/1	-/1	-/1	-/1	1/1	-/1	-/1	yes	yes
BXD55	-/-	-/-	-/-	2/1	2/1	2/2	2/1	2/1	yes	-
BXD56	2/-	3/-	3/-	3/-	3/-	3/-	3/-	3/-	yes	yes
BXD61	3/-	4/-	4/-	4/1	4/1	5/1	4/1	5/1	yes	yes
BXD62	-/-	-/-	-/-	1/-	1/-	1/1	1/1	1/1	yes	-
BXD63	2/-	2/-	2/-	2/-	2/-	2/-	2/-	2/-	yes	yes
BXD65	-/-	-/-	-/-	2/-	2/-	2/-	2/-	2/-	yes	-
BXD65b (BXD92)	-/1	1/1	1/1	1/1	1/2	2/1	1/2	2/1	yes	yes
BXD69	2/-	2/-	2/-	2/1	2/-	2/1	2/-	2/1	yes	yes
BXD70	-/1	-/1	-/1	-/1	-/1	1/1	-/1	-/1	yes	yes
BXD71	-/-	-/-	-/-	-/2	-/2	-/2	-/2	-/2	yes	-
BXD73a (BXD80)	-/-	-/-	-/-	-/2	-/2	-/2	-/2	-/2	yes	-
BXD75	-/2	-/2	-/2	-/2	-/2	-/2	-/2	-/2	yes	yes
BXD77	1/-	2/1	2/1	2/1	2/1	2/2	2/2	2/2	yes	yes
BXD83	-/-	-/-	-/1	-/1	-/1	-/1	-/1	-/1	yes	-
BXD86	-/-	-/-	-/-	-/-	-/-	-/1	-/-	-/-	yes	-
BXD90	3/-	3/-	3/-	3/-	3/-	3/-	3/-	3/-	yes	yes
BXD98	-/1	-/2	-/2	-/2	-/2	-/2	-/2	-/2	yes	yes
BXD99	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	yes	yes
BXD100	2/1	2/1	2/1	2/-	2/1	3/-	2/1	2/1	yes	yes
Males/Females	31/19	36/23	37/24	43/30	43/32	50/36	44/34	47/34		
All Mice	50	59	61	73	75	86	78	81		

Allele at QTL peak

Chr 16 @ 86.457837 Mb - Acquisition

B6 allele	-	-	-	-	-	31/19	-	-
D2 allele	-	-	-	-	-	19/17	-	-

Chr 11 @ 47.930883 Mb - IAL

B6 allele	16/9	19/10	19/10	20/12	20/11	23/14	20/12	21/13
D2 allele	15/10	17/13	17/13	17/12	17/15	19/13	17/15	18/14

Chr 7 @ 31.220796 Mb - CAL

B6 allele	22/13	24/13	24/13	25/14	25/16	29/16	25/16	27/16
D2 allele	9/6	12/10	12/10	12/10	12/10	13/11	12/11	12/11

Table S2. Heritability of intravenous cocaine self-administration phenotypes

Phenotype	Heritability ¹
Sessions to acquire cocaine IVSA	0.28
Infusions (0.032 mg/kg/infusion)	0.48
Infusions (0.056 mg/kg/infusion)	0.58
Infusions (0.1 mg/kg/infusion)	0.47
Infusions (0.18 mg/kg/infusion)	0.46
Infusions (0.32 mg/kg/infusion)	0.60
Infusions (0.56 mg/kg/infusion)	0.50
Infusions (1.0 mg/kg/infusion)	0.56
Infusions (1.8 mg/kg/infusion)	0.57
CAL index	0.51

¹ ratio of between-strain variance to total variance