

Data availability statement

The 16S rRNA gene sequencing data analyzed in this study are available in the NCBI Sequence Read Archive (SRA) under BioProject accession number PRJNA1057505. Additional inquiries should be addressed to the corresponding author.

Supplementary table 1. The Immobility time (s), time spent in the central area (s) in open field test (OFT); the investigation time (s) and discrimination index in novel object recognition test (NORT); percentage of time spent in the novel arm and spontaneous alternations in the Y-maze test.

Group	Immobility time (s) of OFT	Time spent in the central area (s) of OFT	Investigation time (s) in NORT	Discrimination index in NORT (%)	Percentage of time spent in the novel arm of Y-maze test (%)	Spontaneous alternations in the Y-maze test (%)
WKY	213.21	0.21	58.33	86.60	41.25	50.00
WKY	113.59	0.50	55.74	100.00	39.55	42.86
WKY	129.32	1.09	71.79	100.00	36.93	57.14
WKY	208.59	1.78	28.33	100.00	32.47	58.82
WKY	172.74	0.59	54.64	91.30	37.78	62.50
WKY	167.52	2.59	43.79	70.34	43.98	36.84
SHR	68.84	21.02	0.00	40.32	34.99	26.67
SHR	69.98	39.98	26.65	33.55	25.11	17.24
SHR	85.85	35.85	0.00	34.66	23.63	31.58
SHR	54.10	44.10	1.65	40.18	25.36	35.71
SHR	70.31	36.31	36.78	44.37	30.90	44.83
SHR	69.72	53.79	35.61	43.84	28.64	32.38
BAA6L	58.15	38.15	39.36	47.56	30.90	52.63
BAA6L	82.65	53.51	33.59	37.23	30.31	55.00
BAA6L	88.10	28.10	30.70	50.29	35.03	46.15

BAA6L	109.58	49.58	35.33	36.02	43.17	52.94
BAA6L	90.94	25.94	35.80	42.69	26.93	51.81
BAA6L	77.06	22.65	33.26	34.17	28.13	52.94
BAA6H	85.47	35.47	30.95	61.80	43.18	48.15
BAA6H	61.76	21.76	36.76	61.62	34.57	60.00
BAA6H	58.92	28.92	32.65	53.31	49.06	60.00
BAA6H	60.10	40.10	41.69	61.84	39.94	69.23
BAA6H	81.56	28.93	39.57	85.59	27.25	63.64
BAA6H	68.93	39.99	38.56	60.63	38.41	55.56

Supplementary table 2. The levels of neurotransmitter dopamine (DA), norepinephrine (NE), acetylcholine (ACh), glutamate (Glu) and its receptor, brain derived neurotrophic factor (BDNF) in brain tissue; the levels of cytokines TNF- α , IL-1 β , IL-10 and glutathione in brain tissue.

Group	Dopamine (DA) levels (pg/mL)	Norepinephrine (NE) levels (ng/mL)	Acetylcholine (ACh) levels (ng/mL)	Glutamate (Glu) levels (μ mol/L)	Glutamate receptor levels (pg/mL)	Brain derived neurotrophic factor (BDNF) levels (ng/L)	TNF- α levels (ng/L)	IL-1 β levels (ng/L)	IL-10 levels (ng/L)	Glutathione levels (ng/L)
WKY	142.77	25.28	16.45	11.00	289.93	161.50	360.95	25.38	88.52	764.70
WKY	198.64	17.37	25.61	8.12	254.03	296.20	271.22	24.20	95.81	976.67
WKY	201.18	15.50	22.75	14.43	289.93	278.89	323.01	24.07	98.94	969.72
WKY	207.10	21.41	26.73	11.40	242.83	277.89	259.00	31.34	69.96	1019.14
WKY	148.70	28.06	20.54	13.83	299.79	251.74	247.87	28.41	92.69	1121.62
WKY	159.70	15.41	25.60	10.13	262.89	268.02	298.01	27.44	72.94	950.66

SHR	112.30	12.85	15.26	15.24	295.77	134.56	366.68	32.32	15.69	655.47
SHR	141.92	6.39	16.32	17.77	277.41	194.45	388.97	34.73	71.23	572.46
SHR	87.75	8.45	17.96	17.39	307.46	127.95	345.38	44.72	46.01	721.61
SHR	56.43	7.96	16.50	13.56	290.10	134.56	438.68	48.57	24.98	644.00
SHR	154.62	12.70	17.49	12.96	336.99	121.61	368.40	43.06	76.17	705.56
SHR	147.85	11.74	13.10	19.31	264.25	118.81	391.31	30.37	46.33	402.06
BAA6L	155.47	10.59	27.52	15.37	333.34	221.05	236.05	34.95	70.32	919.85
BAA6L	146.16	19.30	19.47	17.92	345.86	167.18	341.64	34.26	89.04	847.98
BAA6L	116.53	15.01	22.04	11.23	319.15	181.61	315.30	37.79	54.23	905.96
BAA6L	123.30	12.10	19.06	12.47	269.30	126.59	366.01	42.30	65.75	572.07
BAA6L	152.93	16.85	23.14	10.58	317.92	149.89	194.03	31.21	50.44	709.12
BAA6L	110.60	12.88	22.70	11.02	412.47	200.08	259.76	29.77	85.09	949.19
BAA6H	135.15	18.84	26.46	8.00	311.63	193.66	247.57	31.14	77.18	960.97
BAA6H	195.25	11.29	24.76	10.90	205.79	254.57	229.24	24.68	51.28	938.90
BAA6H	135.15	17.53	26.55	8.54	329.16	166.46	273.59	31.05	53.24	792.39
BAA6H	184.25	29.58	20.65	15.32	308.00	231.60	252.56	25.14	124.16	751.90
BAA6H	198.75	14.20	21.08	13.03	415.32	199.27	249.25	32.65	110.92	982.39
BAA6H	175.78	18.97	21.02	8.91	319.18	240.62	231.27	29.54	82.93	717.08
