

Supplemental materials

Transcriptomic and metabolomic analysis provide insights into the attenuation of neuroinflammation by nervonic acid in MPTP-stimulated PD model mice

Xueqi Wang¹, Xinliang Zhu^{1,2,3}, Xu Li¹, Zhengdou Li¹, YingMao¹, Shunbin Zhang¹, Xiaoxiao Liu⁴, Xingguo Liu⁴, Yapeng Liu⁴, Fuliang Cao^{5*}, and Ji Zhang^{1,2,3*}

¹ College of Life Science, Northwest Normal University, Lanzhou 730070, Gansu Province, China.

² Bioactive Products Engineering Research Center for Gansu Distinctive Plants, Lanzhou 730070, China.

³ Institute of Rural Development and Research, Northwest Normal University, Lanzhou 730070, Gansu Province, China

⁴ Lanzhou Institute of Food and Drug Control, Lanzhou 740050, China

⁵ Nanjing Forestry University, Nanjing 210037, Jiangsu Province, China

*Corresponding authors: Fuliang Cao and Ji Zhang

Table S1. The primer sequences of RT-PCR

β -actin	5'-GTCAGGTCATCACTATCGGCAAT-3'(forward)	5'-AGAGGTCTTTACGGATGTCAACGT-3'(reverse);
Mpp4	5'-CTCAGCCGTACCAACCTACA-3'(forward)	5'-GCGGAACCCAGCGATAAA-3'(reverse);
Mpp3	5'-CAGAGTCCAACCCAGTCCT-3'(forward)	5'-TCTTCTGGGCAACCGTGTC-3'(reverse);
Mpp5	5'-TTGTTTCTCGGCAAGCATT-3'(forward)	5'-CGGAGGGTCTTCAAGGACTG-3'(reverse);
Mpp7	5'-CAAGGCAATCCCGTGTAAG-3'(forward)	5'-TCAGAGCCAGTCTCCGTTCC-3'(reverse);
Zdhc23	5'-CAATGCCTGTCCCTGGTCTA-3'(forward)	5'-TTTCTGCCACATACGCTGT-3'(reverse);
Cd300a	5'-GAGCAGAATGAGTGCCAGTATGT-3'(forward)	5'-GTTGAATGCCACGGATGAATA-3'(reverse);
Rasd1	5'-ATGTGCCCAAGCGACTCTG-3'(forward)	5'-CTCGATGGTAGGGGTGTAAGC-3'(reverse);
Rasd2	5'-ACTCAATGTGCCTGCTAAGAACTC-3'(forward)	5'-TCCTCGATAGTGGGCGTGTA-3'(reverse);
Ptgs2	5'-TCTCAATGAGTACCGCAAACG-3'(forward)	5'-TGGTCTCCCCAAAGATAGCA-3'(reverse);
Alox5ap	5'-ATACTTTGTGCGCTATCTGGG-3'(forward)	5'-CGTCGTGCTTACCGTTCTG-3'(reverse);
Ryr1	5'-GTGCTGCTTACCAACCTGTC-3'(forward)	5'-AAATAGATCCGTTCTATGCGAC-3'(reverse);
Slc18a2	5'-CCTCATGGACCACAACCTGC-3'(forward)	5'-CAATGGATGGCGTACTAAG-3'(reverse);
Penk	5'-GGGGCTTATGCGGTCT-3'(forward)	5'-CACAGCTTTCAGGCAGTGTAGT-3'(reverse);
Adcy5	5'-CTTCAGGGAGCCCGACTTA-3'(forward)	5'-GCAGGAAACACGACAGGTAGA-3'(reverse);
Pde1c	5'-GAAGCCAGGTTCAAGAGC-3'(forward)	5'-CGAAGGACCACGTATCCAC-3'(reverse);
Gbp2	5'-AAGGGTGACAACCAGAATGAC-3'(forward)	5'-CACAAAGTTAGCGGAATCGT-3'(reverse);
Ddc	5'-CACATTGACGCTGCTTACG-3'(forward)	5'-TCAGTCCTCCTTCCACCA-3'(reverse);
Th	5'-GGTCTACTGTCTGCCCGTAT-3'(forward)	5'-TGTGCGGTCAGCCAACAT-3'(reverse);
Ak7	5'-CCTAAGTATCCTCCGTGACTGG-3'(forward)	5'-CGTAATCGAAGCGTTTGTGA-3'(reverse);
Pla2g4a	5'-TCCCTTGATTCTTCGACCTC-3'(forward)	5'-TCATTTTCGCCACTTCTC-3'(reverse).

Fig. S1 The mice from head up to full turn down was recorded as turn time in pole climbing tests

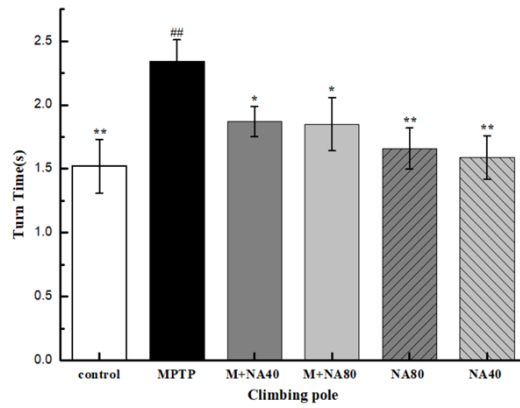


Fig. S2 The Y-Maze analysis the total number of entering arms of mice

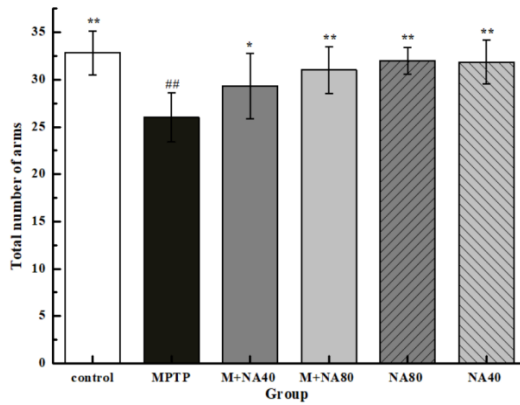


Fig. S3 Average escape distance of reaching the hidden platform during training (5 days); Average escape latency of reaching the hidden platform during training (5 days).

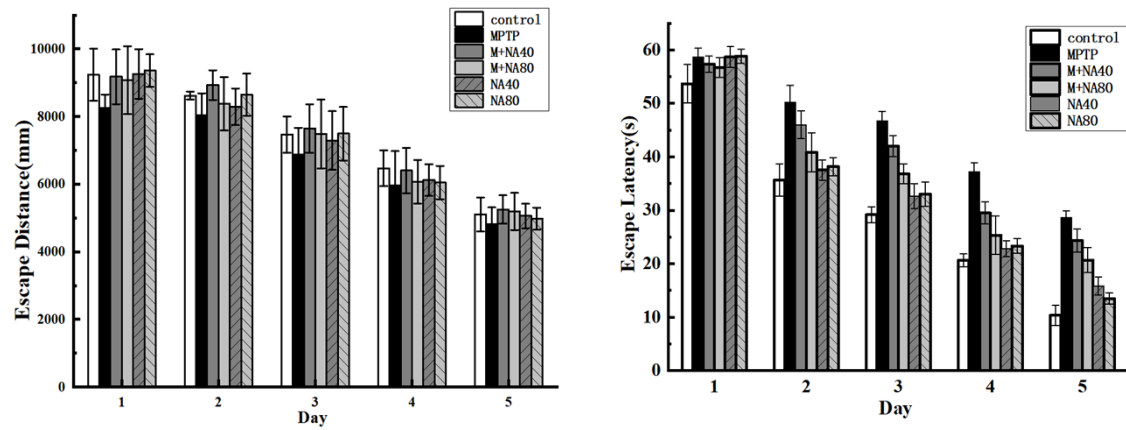


Fig. S4 On the fifth day, the average escape latency of mice reaching the hidden platform.

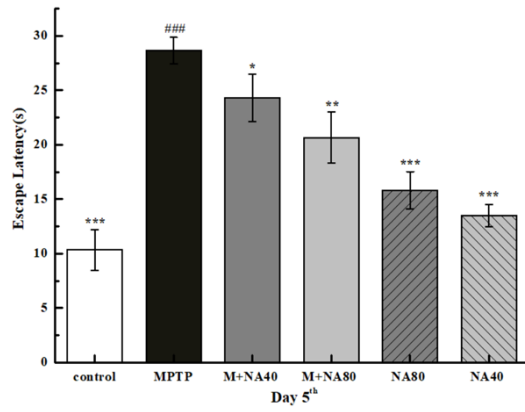


Fig. S5 On the 6th day, the time spent in the target quadrant where the hidden platform;

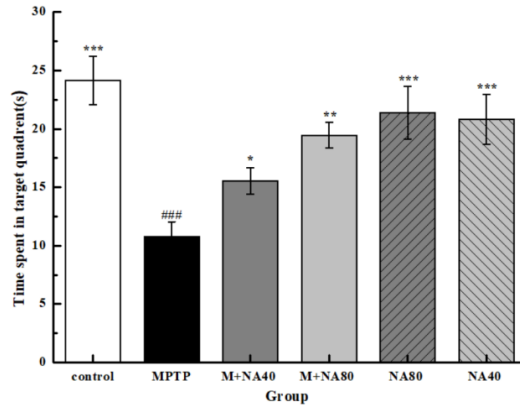


Fig. S6 Correlation coefficient (R^2) between samples, PCA diagram and statistical map of differential genes. (A) Heat map of correlation coefficient between samples and two dimensional principal component analysis (PCA) diagram. (B) Volcano map and statistical map of the number of up-regulated and down-regulated genes.

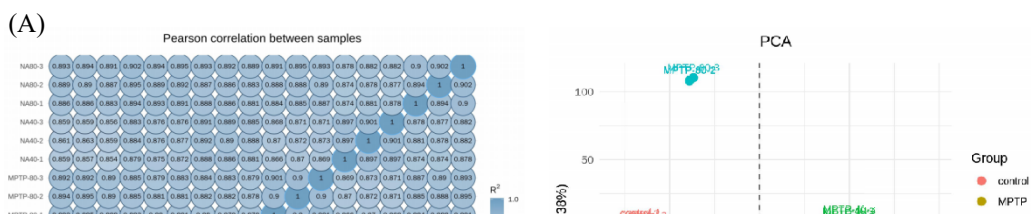


Fig. S7 Verification of Gene Expression Levels. All the experiments were repeated at least three times and similar results were observed. Values are mean \pm SEM, (n = 4 samples/group). p# < 0.05, p## < 0.01 vs control group, p* < 0.05, p** < 0.01 vs MPTP-induced group.

