Supplementary Figure Legends

Supplementary Figure 1. L-BMAA injection induced clinical severity, as detected by motor-evoked potential (MEP) latencies and amplitudes. Figures shows MEP waveforms at each time point. MEP amplitude became significantly lower following L-BMAA injection compared to rats in the control group, and latency was also significantly prolonged, especially from four weeks to eight weeks post L-BMAA injection.

Supplementary Figure 2. Analysis of motor unit potentials in L-BMAA-treated rats. Mean amplitude and mean duration of MUPs, as well as the percentage of polyphasic potentials in L-BMAA-treated rats, were much higher than rats in the control group.

Supplementary Figure 3. (A-D): L-BMAA injections increased GSK3 β expressions in CNS of treated rats. GSK3 β expression was upregulated, especially at 6-8 weeks post-injections in L-BMAA-treated rats, as shown by immunostaining of GSK3 β , and counterstained with hematoxylin. (E-H): L-BMAA injections increased tau-5 expressions in CNS of treated rats. Expression of tau-5 increased with time in L-BMAA-treated rats as shown by immunostaining, and counterstained with hematoxylin. SC: spinal cord; Scale bar = 100 µm. Supplementary Figure 4. Gradual loss of neurons in the CNS of L-BMAA-treated rats are shown by nissl staining (A-O). SC: spinal cord; BC: brain cortex; H: hippocampus; Scale bar = $100 \mu m$.







