

Table SI. P-values for the comparison of neuron-specific enolase between the two indicated groups at each time point.

Comparison	D1	D3	D7
NS vs. NS + KA	0.001	0.036	0.085
NS vs. BHB + KA	0.171	1.000	1.000
NS vs. BHB	1.000	1.000	1.000
NS + KA vs. BHB + KA	0.010	0.200	0.121
NS + KA vs. BHB	<0.001	0.006	0.011
BHB + KA vs. BHB	0.037	0.237	0.817

NS, normal saline; KA, kainic acid; BHB,  $\beta$ -hydroxybutyrate; D1, 1 day after KA administration; D3, 3 days after KA administration; D7, 7 days after KA administration.

Table SII. P-values for the comparison of glial fibrillary acidic protein between the two indicated groups at each time point.

Comparison	D1	D3	D7
NS vs. NS + KA	0.793	0.037	<0.001
NS vs. BHB + KA	1.000	1.000	0.011
NS vs. BHB	1.000	0.643	1.000
NS + KA vs. BHB + KA	1.000	0.033	<0.001
NS + KA vs. BHB	0.940	0.003	<0.001
BHB + KA vs. BHB	1.000	0.732	0.004

NS, normal saline; KA, kainic acid; BHB,  $\beta$ -hydroxybutyrate; D1, 1 day after KA administration; D3, 3 days after KA administration; D7, 7 days after KA administration.

Table SIII. P-values for the comparison of glutathione between the two indicated groups at each time point.

Comparison	D1	D3	D7
NS vs. NS + KA	<0.001	0.472	<0.001
NS vs. BHB + KA	0.083	1.000	1.000
NS vs. BHB	1.000	1.000	1.000
NS + KA vs. BHB + KA	<0.001	0.894	<0.001
NS + KA vs. BHB	<0.001	0.390	<0.001
BHB + KA vs. BHB	0.169	1.000	0.942

NS, normal saline; KA, kainic acid; BHB,  $\beta$ -hydroxybutyrate; D1, 1 day after KA administration; D3, 3 days after KA administration; D7, 7 days after KA administration.

Table SIV. P-values for the comparison of  $\gamma$ -aminobutyric acid between the two indicated groups at each time point.

Comparison	D1	D3	D7
NS vs. NS + KA	<0.001	0.003	<0.001
NS vs. BHB + KA	<0.001	1.000	0.081
NS vs. BHB	1.000	1.000	1.000
NS + KA vs. BHB + KA	<0.001	0.048	<0.001
NS + KA vs. BHB	<0.001	0.006	<0.001
BHB + KA vs. BHB	<0.001	1.000	0.239

NS, normal saline; KA, kainic acid; BHB,  $\beta$ -hydroxybutyrate; D1, 1 day after KA administration; D3, 3 days after KA administration; D7, 7 days after KA administration.