

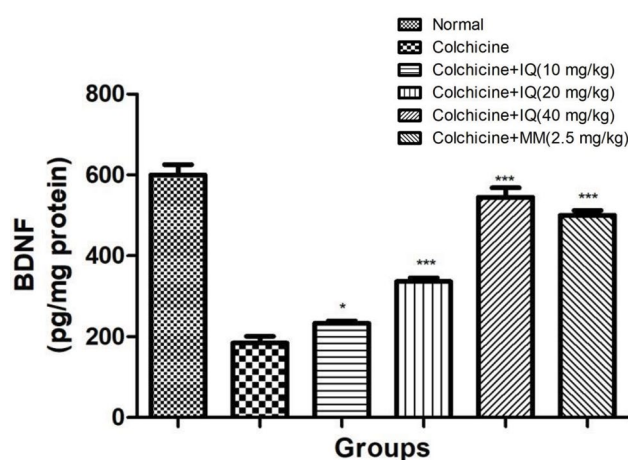
## Supplementary Information for Neuroprotective Effects of Isoquercetin: An *In Vitro* and *In Vivo* Study

Qingxiao Yang, M.M.<sup>1</sup>, Zhichen Kang, M.D.<sup>2</sup>, Jingze Zhang, M.M.<sup>1</sup>, Fuling Qu, M.M.<sup>2</sup>, Bin Song, M.M.<sup>1\*</sup>

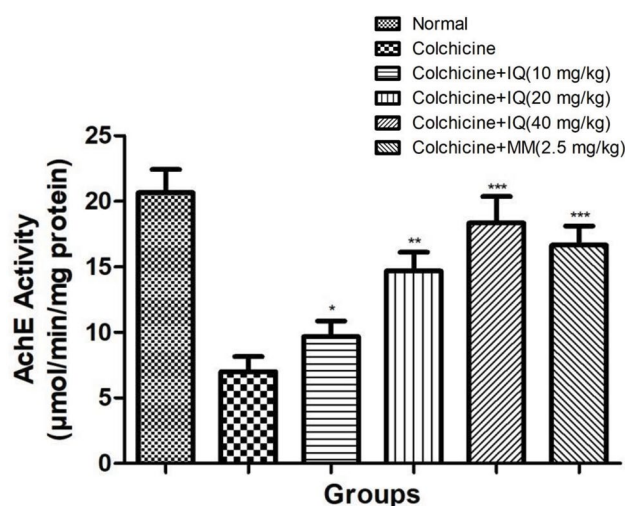
1. Neurosurgery Department, Second Hospital of Jilin University, Changchun City, Jilin Province, 130000, China

2. Rehabilitation Department, Second Hospital of Jilin University, Changchun City, Jilin Province, 130000, China

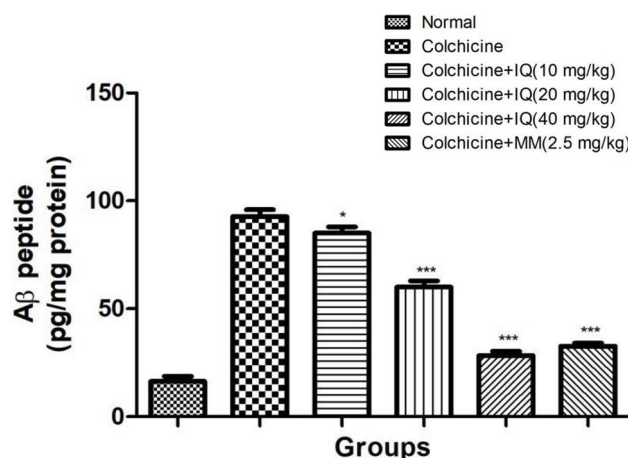
\*Corresponding Address: Neurosurgery Department, Second Hospital of Jilin University, Changchun City, Jilin Province, 130000, China  
Email: 15526859189m0@sina.cn



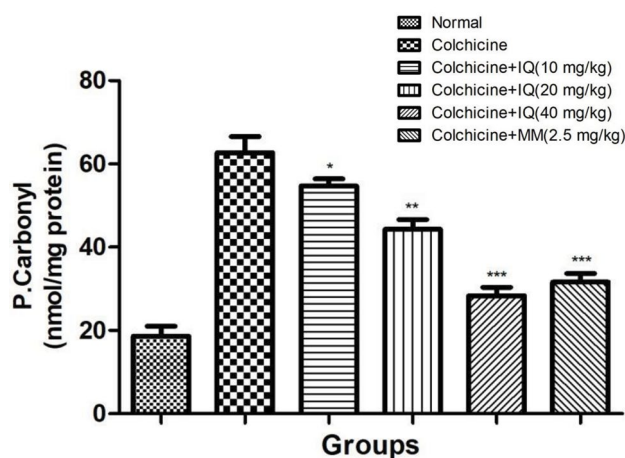
**Fig.S1:** Showed the effect of isoquercetin and colchicine on the level of BDNF. Method as described in the material and method. Data shows mean  $\pm$  SEM of 6 rats in each group. Significant difference represent as compared to colchicine control group rats. \*,  $P < 0.05$ , \*\*\*,  $P < 0.001$ , BDNF; Brain-derived neurotrophic factor, IQ; Isoquercetin, and MM; Memantine.



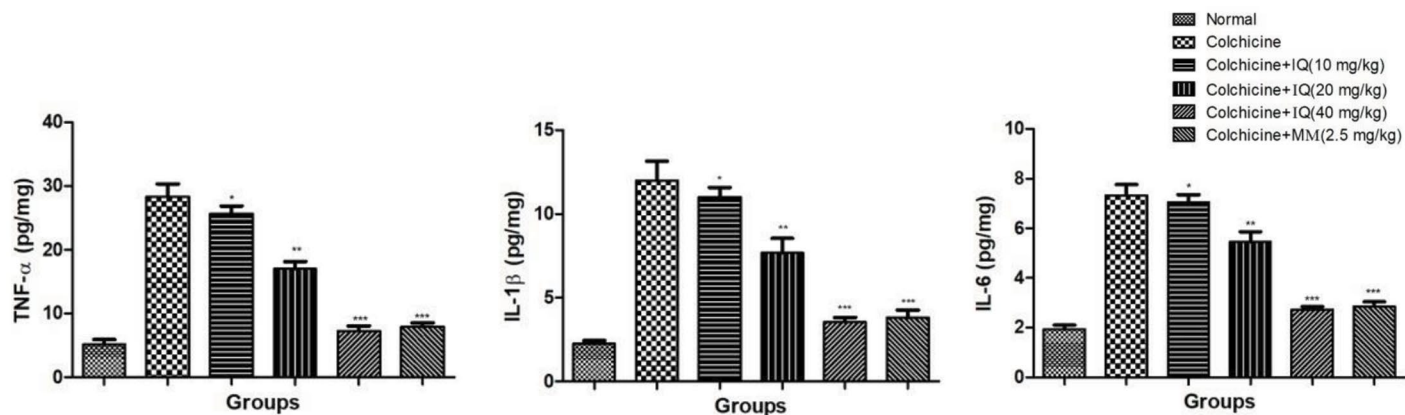
**Fig.S3:** Showed the effect of isoquercetin and colchicine on the level of AChE activity. Method as described in the material and method. Data shows mean  $\pm$  SEM of 6 rats in each group. Significant difference represent as compared to colchicine control group rats. \*,  $P < 0.05$ , \*\*,  $P < 0.01$ , \*\*\*,  $P < 0.001$ , IQ; Isoquercetin, and MM; Memantine.



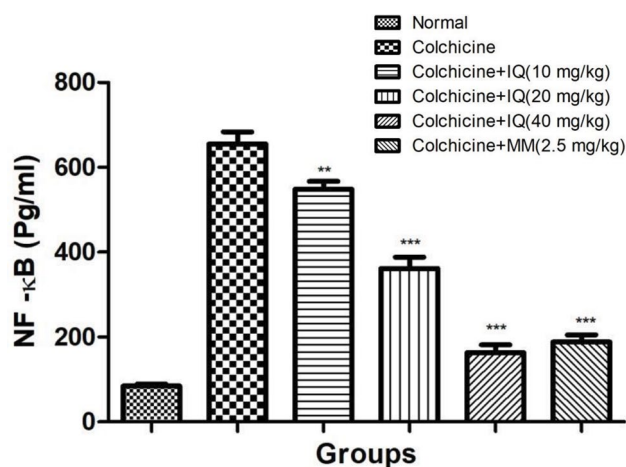
**Fig.S2:** Showed the effect of isoquercetin and colchicine on the level of Aβ peptide. Method as described in the material and method. Data shows mean  $\pm$  SEM of 6 rats in each group. Significant difference represent as compared to colchicine control group rats. \*,  $P < 0.05$ , \*\*\*,  $P < 0.001$ , IQ; Isoquercetin, and MM; Memantine.



**Fig.S4:** Showed the effect of isoquercetin and colchicine on the level of protein carbonyl. Method as described in the material and method. Data shows mean  $\pm$  SEM of 6 rats in each group. Significant difference represent as compared to colchicine control group rats. \*,  $P < 0.05$ , \*\*,  $P < 0.01$ , \*\*\*,  $P < 0.001$ , IQ; Isoquercetin, and MM; Memantine.



**Fig.S5:** Showed the effect of isoquercetin and colchicine on the level of pro-inflammatory cytokines. Method as described in the material and method. Data shows mean  $\pm$  SEM of 6 rats in each group. Significant difference represent as compared to colchicine control group rats. \*,  $P < 0.05$ , \*\*,  $P < 0.01$ , \*\*\*,  $P < 0.001$ , IL-1 $\beta$ ; Interleukin-1 $\beta$ , TNF- $\alpha$ ; Tumor necrosis factor- $\alpha$ , IL-6; Interleukin-6, IQ; Isoquercetin, and MM; Memantine.



**Fig.S6:** Showed the effect of isoquercetin and colchicine on the level of NF-κB. Method as described in the material and method. Data shows mean  $\pm$  SEM of 6 rats in each group. Significant difference represent as compared to colchicine control group rats. \*\*,  $P < 0.01$ , \*\*\*,  $P < 0.001$ , TNF- $\alpha$ ; Tumor necrosis factor- $\alpha$ , IQ; Isoquercetin, and MM; Memantine.