

中文題目：甘草酸對麩氨酸誘發神經細胞激發性毒性之神經保護作用之機轉

英文題目：**Inhibition of Nuclear Factor  $\kappa$  B is associated with Neuroprotective Effects of Glycyrrhizic Acid on Glutamate-induced Excitotoxicity in Primary Neurons**

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**Background and Purpose:** Glycyrrhizic acid (GL) is a herbal drug with a wide spectrum of antiviral activities and pharmacological effects including anti-inflammation. We report here that GL is protective against neurotoxicity elicited by the excitatory amino acid glutamate in rat primary neuronal cultures and hippocampal slices.

**Methods and Results:** GL confers neuroprotective properties in a concentration-dependent manner, as determined by cell survival, apoptosis, and calcium influx. The site of action of the drug appeared to be downstream of glutamate receptors and to involve specific inhibition of glutamate-mediated induction of nuclear factor kappa B.

**Conclusions:** A strict correlation between neuroprotective concentrations of GL and blockade of NF- $\kappa$ B induction was observed. These results may contribute to the emerging theme of anti-inflammatory drugs and neurodegeneration.