

GABAergic Neuron Death in the Striatum Following Kainate-induced Damage of Hippocampal Neurons: Evidence for the Role of NO in Locomotion

李愛薇

Shih YH; Lee AW; Huang YH; Ko MH; Fu YS

摘要

Abstract

The authors examined the role of nitric oxide (NO) in the relationship between kainate-induced neuronal death and locomotion changes. Locomotion was significantly increased 1 h after kainate injection, suggesting that kainate induced NO and dopamine release. Cell death occurred in the CA1 (41%) and CA3 (54%) regions at 12 h. At 7 days, GABAergic neurons in striatum were lost, suggesting possible pyramidal neuron synapse with striatal GABAergic neurons, and pyramidal neuron damage leading to deafferentation and degeneration of striatal GABAergic neurons. Pre-administration of Nw-nitro-L-arginine-methyl-ester or 7-nitroindazole reduced these effects. These results indicate that NO may modulate kainate-induced neuronal death and locomotion.