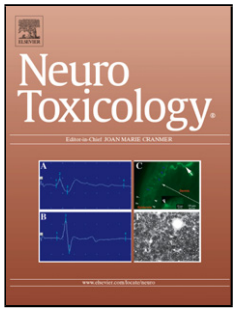

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Fluoride activates microglia, secretes inflammatory factors and influences synaptic neuron plasticity in the hippocampus of rats

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Highlights

- In this study, hippocampal-dependent memory status was evaluated in rat models sub-chronically exposed to fluoride in their drinking water. Microglial activation in the hippocampus.
- Fluoride exposure activated microglia and increased the expression of DAP12 and TREM2, as well as promoted pro-inflammatory cytokines secretion via ERK/MAPK and P38/MAPK signal pathways.
- Fluoride depressed LTP and decreased PSD-95 protein levels as well as expression of ionotropic glutamate receptors GluR2 and NMDAR2β. We concluded that the role of fluoride on synaptic plasticity may be associated with neuroinflammation induced by microglia.

ABSTRACT