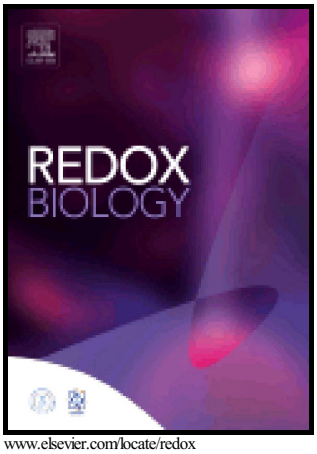

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Dexibuprofen prevents neurodegeneration and cognitive decline in *APPswe/PS1dE9* through multiple signaling pathways

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Abstract

The aim of the present study is to elucidate the neuronal pathways associated to NSAIDs causing a reduction of the risk and progression of Alzheimer's disease. The research was developed administering the active enantiomer of ibuprofen, dexibuprofen (DXI), in order to reduce associated gastric toxicity. DXI was administered from three to six-month-old female APPswe/PS1dE9 mice as a model of familial Alzheimer's disease. DXI treatment reduced the activation of glial cells and the cytokine release involved in the neurodegenerative process, especially TNFα. Moreover, DXI reduced soluble β-amyloid (Aβ1-42) plaque deposition by decreasing APP, BACE1 and facilitating Aβ degradation by enhancing insulin-degrading enzyme. DXI also decreased TAU hyperphosphorylation inhibiting c-Abl/CABLES/p-CDK5

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