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(57) Abstract :
The present invention discloses a novel neuroprotective application of hordenine against cognitive dysfunction and neurodegeneration resulting from aluminium chloride (AlCl3)-induced Alzheimer's disease. Administration of hordenine markedly improves memory and cognitive function, reduces neuroinflammation and oxidative stress markers including acetylcholinesterase (AChE), TNF-a, IL-1ß, NF-?B, and lipid peroxidation, and significantly increases antioxidant enzyme levels (glutathione, catalase, superoxide dismutase). Histopathological evaluations further demonstrate preserved neuronal architecture in cortical and hippocampal tissues. Thus, hordenine offers promising therapeutic potential for the treatment and management of Alzheimer's disease related to aluminium exposure.

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