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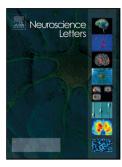
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ACCEPTED MANUSCRIPT

The inhibitory effect of chitosan oligosaccharides on β -site amyloid precursor protein cleaving enzyme 1 (BACE1) in HEK293 APPswe cells

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Highlights

- COS dose-dependently decreased the cell apoptosis mediated by APPswe overexpression.
- COS repressed the secretion of both Aβ40 and Aβ42 in HEK293 APPswe cells.
- COS significantly reduced both BACE1 expression and enzymatic activity.
- eIF2α phosphorylation was involved in COS-mediated BACE1 reduction.

Abstract: Amyloid precursor protein (APP) proteolysis is essential for the production of β -amyloid peptides (A β) that form senile plaques in Alzheimer's disease (AD) brains. The β -site amyloid protein precursor cleaving enzyme 1 (BACE1) is the rate limiting enzyme in the generation of A β from APP, inhibition of BACE1 is thereby considered as an attractive strategy for anti-AD drug discovery. Chitosan oligosaccharides (COS) has been shown to possess various biological activities. Here we investigated the potential inhibitory effect of COS on both BACE1 expression in HEK293 APPswe

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