MOLECULAR NEURODEGENERATION

MEETING ABSTRACT Open Access

Protective effect of uric acid against 6-OHDA-induced injury in SH-SY5Y cells

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Objective

To investigate the effect of uric acid (UA) on 6-hydroxydopamine (6-OHDA) -induced injury in SH-SY5Y cells.

Methods

The cell viability was measured by the MTT reduction assay. The cell apoptosis was assessed by Hoechst 33342 staining with fluorescence microscopy. The phophorylation of Akt and GSK-3β(ser9) was determined by Western blot analysis.

Results

Treatment with 6-OHDA at 50μM for 12 h significantly decreased the viability of SH-SY5Y cells. Pretreatment with UA (200-400μM, 0.5h) prior to 6-OHDA treatment markedly increased the cell viability of SH-SY5Y cells, as compared to that of 6-OHDA-treated group. The beneficial effects of UA against 6-OHDA-induced apoptosis were also confirmed by Hoechst 33342 staining assay. Moreover, 6-OHDA decreased the Akt activity and increased the GSK-3β activity, which could be blocked by UA (200-400μM) pretreatment.

Conclusions

These data suggest that 6-OHDA-induced cell injury was attenuated by UA. The underlying mechanisms may involve the up-regulation of Akt and the reduction of GSK-3β activity.

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