Salvianolic acid B

The aim of this study was to evaluate the neuroprotective effects of SalB on high glucose (HG)-induced excessive autophagy and apoptosis in vitro.

METHODS: The proliferation and apoptosis of RSC96 cells were determined using the MTT assay and flow cytometry, respectively. Western blot analysis was performed to examine the expression of autophagy and apoptosis-related proteins. RT-PCR and flow cytometry were manipulated to examine the level of Bcl-2. The signals of autophagy markers were detected using immunofluorescence methods.

KEY FINDINGS: We found that HG significantly reduced RSC96 cell's proliferation and induced apoptosis. What's more, HG increased the level of autophagy and apoptosis-related proteins. However, these effects were reversed by SalB. In addition, we also found that 3-MA decreased the expression of LC3A/B and Beclin1, while the JNK inhibitor SP600125 reduced the levels of phosphorylated JNK, LC3A/B and Beclin1.

CONCLUSIONS: High glucose not only induced apoptosis but also caused autophagic cell death by activating the JNK pathway. These effects prevented by SalB in an opposite manner [1)].

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Wang QQ, Zhai C, Wahafu A, Zhu YT, Liu YH, Sun LQ. Salvianolic acid B inhibits the development of diabetic peripheral neuropathy by suppressing autophagy and apoptosis. J Pharm Pharmacol. 2019 Mar;71(3):417-428. doi: 10.1111/jphp.13044. Epub 2018 Dec 7. PubMed PMID: 30537209.