RESVERATROL MODULATES GLUTAMATE UPTAKE, GLUTAMINE SYNTETASE ACTIVITY AND S100B SECRETION IN C6 GLIOMA CELL LINEAGE.

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Resveratrol (3,4',5-trihydroxy stilbene), is an antioxidant found in grapes and red wine. The main aim of this study was to investigate the effect of resveratrol (0.01 to 100 µM) in C6 lineage on DNA damage and parameters of astrocyte activity (glutamate uptake, glutamine synthetase (GS) and S100B secretion. DNA damage was assessed by the comet assay, S100B content (ng/mL) by ELISA, glutamate uptake (nmol/mg prot/min) by [^{3}H] glutamate and GS activity (µmol/mg prot/h) by colorimetric assay. After 6 h of incubation resveratrol *per se* induced DNA damage dependent on concentration. An increment of S100B secretion was observed after 48 h at 100 µM (from 0.28 ± 0.01 to 0.47 ± 0.02) and a linear increase of glutamate uptake was observed from 0.1 µM (0.27 ± 0.008) to 100 µM (0.35 ± 0.009) of resveratrol compared to control (0.20 ± 0.005). GS activity was increased by resveratrol at 100 µM (from 0.36 ± 0.09 to 0.70 ± 0.14). The present study demonstrates that resveratrol could provide protection through its modulatory effect on glial activities reinforcing the putative use of this compound in the therapeutic arsenal against brain disorders. Supported by FAPERGS, CNPq, PROPESQ-UFRGS.