

EFFECT OF EUPAFOLIN AND HISPIDULIN ON THE MEMBRANE PERMEABILITY TRANSITION AND ON CELL PROLIFERATION

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Several flavonoids induce apoptosis in association with mitochondrial permeability transition (MPT). MPT plays an important roles in apoptosis by releasing apoptogenic factors such as cytochrome *c* from the mitochondria. In a previous study we demonstrated that the natural flavones eupafolin and hispidulin, promoted reduction of oxygen consumption and caused inhibition of enzyme activities of respiratory chain mitochondria. They flavones induced a dose-dependent decrease in swelling in the presence of the substrates glutamate and succinate, and caused reduction in the viability of B16-F10 cells. We now evaluate the effect of eupafolin and hispidulin on the induction of MPT, and on the proliferation of B16F10 cells. Eupafolin (200 $\mu\text{mol.L}^{-1}$) promoted an inhibition (~35%) of swelling induced by Ca^{2+} , although hispidulin did not affect MPT in the concentrations tested (25 – 200 $\mu\text{mol.L}^{-1}$). Proliferation of B16-F10 cells cultured for 72 h was not affected by the presence of the flavones at 1, 2.5 and 5 $\mu\text{mol.L}^{-1}$. These results suggest that eupafolin could be an inhibitor of MPT, and that under our experimental conditions hispidulin and eupafolin do not affect proliferation of the B16F10 cells.

Keywords: eupafolin, hispidulin, MPT

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