

DIFFERENTIAL SENSITIVITY OF PC-3 AND LNCAP PROSTATE CANCER CELL LINES TO STATINS

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Statins are 3-hydroxy-3-methylglutaryl CoA reductase inhibitors used in the treatment of hypercholesterolemia. Some epidemiologic studies show that patients taking statins present a lower cancer incidence compared with those taking other cholesterol-lowering medication. Androgen-independent PC-3 and androgen-dependent LNCaP cell lines are commonly used as cell culture models of prostate cancer. The sensitivity of these cells to statins was investigated by treatment with 0.1, 1, 10 and 100 μM lovastatin and simvastatin. Statin concentrations =0.1 μM and =1 μM inhibited proliferation of PC-3 and LNCaP cell lines, respectively. The inhibition of cell proliferation was followed by a significant increase in death of PC-3 cells, but not of LNCaP cells, treated with 10 μM statins during 72 hours. Under these conditions, it was also observed an increase in cytosolic free Ca^{2+} concentrations only in PC-3 cells, what correlates with their lower viability in the presence of statins. Considering that statins are able to induce cell death of androgen-independent cells, they could be interesting drugs to be associated with the androgen restriction treatments for prostate cancer.

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