EFFECT OF SODIUM BUTYRATE ON CELL PROLIFERATION AND EPIDERMAL GROWTH FACTOR RECEPTOR (EGFR) EXPRESSION IN NON-SMALL CELL LUNG CANCER CELL LINES.

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Lung cancer constitutes the most frequent kind of malign tumors. This pathology is considered to be the main cause of death in males and the second in females. In the present work, we have analyzed the effects of sodium butyrate, a histone deacetilase inhibitor, on cell proliferation and morphology using two different lineages of non small cell lung cancer, A549 and H460. The main function of HDACs is to remodel chromatin structure by controlling the level of histone acetylation leading to activation of several genes implicated in the regulation of cell survival, proliferation, differentiation and apoptosis. Our results have show that sodium butyrate presents a time and dose dependent effect in regulation of growth of both cells, its action being more pronounced in A549 lineage. Morphological changes and actin rearrangement were evaluated by actin staining with phalloidin in both cell lines. EGFR gene expression was monitored by real time PCR and was shown to be increased by butyrate treatment. Preliminary results showed that sodium butyrate inhibit the p-ERK expression in a time and dose dependent.