

Temporomandibular joint discs, internal derangement, p53, VEGF, immunohistochemistry

## **Effects of treatment with anti-HIV drugs on ovarian cell line**

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Anti-retroviral drugs used for the treatment of Human Immunodeficiency Virus (HIV) have proven to be effective even against cancer. Drawing from this background the aim of our research project was to evaluate the effects of anti-HIV drugs that belong to the Nucleoside and Nucleotide Reverse Transcriptase Inhibitors (NRTI, abacavir and tenofovir), Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI, efavirenz and etravirine) and Protease Inhibitors (PI, darunavir) on ovarian adenocarcinoma cell line (Skov-3). We observed by FACS analysis that the treatment with NRTI and NNRTI showed a block in G<sub>0</sub>/G<sub>1</sub> phase. In particular etravirine (ETR) displayed a relevant block in the progression of the G<sub>0</sub>/G<sub>1</sub> phase of the cell cycle compared with the other examined drugs and it was also able to induce differentiation of SKOV-3 cells. In contrast, FACS analysis demonstrated that, abacavir (ABC) and PI inhibitor darunavir (DRV) showed no effect on proliferation cancer cells. DAPI (4',6-diamidino-2-phenylindole) staining demonstrated that cells treated with the NNRTI (efavirenz and etravirine) presented more DNA damages compared with other treatments. Immunoblotting analysis demonstrated tenofovir (TDF), efavirenz (EFV) and etravirine to be able to obtain a reduction in the expression of cyclin D1, Rb hypophosphorylation and increase of p21 concentration. Finally we also observed that etravirine also induced differentiation as demonstrated by Western Blot with high levels of E-cadherin expression. Therefore our study provides additional evidence supporting the *in vitro* cytotoxic effects of etravirine and efavirenz; furthermore it promotes the hypothesis for their potential use as therapeutic agents in ovarian cancer.