

## عنوان مقاله:

Investigating the Genotoxic Effect of Gamma Irradiation on L929 Cells after Vinblastine Treatment Using Micronucleus Assay on Cytokinesis-blocked Binucleated Cells

## محل انتشار:

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## خلاصه مقاله:

There are several studies suggesting the role of aneuploidy in tumor formation. Aneuploid cells are different from normal ones in term of gene expression and proteome. Cells with different amount and kind of proteins might act differently to external stimuli, including ionizing irradiation. Currently, radiotherapy is one of the main methods in fight against cancer, therefore, it is important to understand the response of the aneuploid tumor cells to irradiation. To investigate the chromosomal effect of gamma irradiation on aneuploid cells, L929 cells were treated with 1.5 ng.ml<sup>-1</sup> of vinblastine to induce aneuploidy. Vinblastine-treated cells were left to recover for 72 h and irradiated with 1 Gy of gamma radiation. Induced chromosomal damages were investigated using micronucleus (Mn) assay. Data showed that vinblastine and gamma irradiation both were able to significantly increase micronucleated-binucleated cells (MnBi) frequency. However, 1 Gy gamma irradiation of the cells after 72h of vinblastine treatment led to the lower frequency of MnBi compared to irradiated cells. Results of this study suggest that vinblastine treatment of cells before irradiation not only did not sensitize the cells to radiation-induced chromosomal abnormalities, but also had radio-protective effect for these cells. This result could be useful in planning cancer therapy regimes.

## کلمات کلیدی:

Gamma, Vinblastine, L929 cells, Micronucleus assay, Binucleated cells

## لینک ثابت مقاله در پایگاه سیویلیکا:

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