

عنوان مقاله:

An Investigation of Post-radiation Gene Expression Profiles : A System Biology Study

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خلاصه مقاله:

**Abstract Introduction:** Genomics and bioinformatics are useful methods for exploring unclear aspects of radiation effects on biological systems. Many radiation-induced alterations in irradiated samples are post-radiation time-dependent. This study aims to evaluate the post-irradiation effects of the gamma-ray on human Jurkat cells. **Methods:** Gene expression profiles of the samples compared 6 and 24 hours after radiation to find the critical differential expressed genes and the related pathways. Samples are provided from Gene Expression Omnibus (GEO) and analyzed by ClueGO. **Results:** Twenty-nine critical genes were determined as the important affected genes and 7 classes of related pathways were introduced. CCNE2, PSMD11, CDC25C, ANAPC1, PLK1, AURKA, and CCNB1 that were associated with more than 6 pathways were related to one of the determined pathway groups. **Conclusion:** Cell protecting pathways were associated with the genes (HSPAΔ, HSPAλ, HSPA·B), HMMR, CEBPB, RXRA, and PSMD11) which were related to the minimum numbers of pathways. The finding of this study corresponds to repair processes that depend on post-radiation time. It seems these sets of genes are suitable candidates for further investigation. **Keywords:** Radiation; Bioinformatics; Gene expression; Pathway; Dysregulation

کلمات کلیدی:

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