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THE MECHANISM OF ASTROCYTE'S RESISTANT TO RAYS

Abstract

purpose: the purpose of this study was to investigate the mechanism of glioma's resistant to -rays. Methods: Glioma was radiated by -ray(7Gy) and the cell cycle was evaluated by flow cytometry and the samples' genes related to DNA replication and DNA repair were analyzed after genomic sequencing. Results: the proportion of cells in S-phase was increased compared to control group. The expression of genes involved in DNA replication and DNA repair(homologous recombination repair, non-homologous end joining (NHEJ) and mismatch repair) decreased while genes related to Base excision repair increased. Conclusion: -rays would induce a single-strand break and base mutation. U251 would be blocked in S-phase probably by the way of inhibiting DNA replication. Broken DNA was repaired by the way of base mismatch repair and single-strand repair.