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Optimization of Radiation Therapy with a Nanotechnology Based Enzymatic Therapy

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Abstract : Results obtained by our group on glioblastoma multiforme (GBM) primary cultures , show a dramatic potentiation of radiation effects when 2 units/ml of D-amino acid oxidase (DAO) enzyme are added, free or immobilized in magnetic nanoparticles, to irradiated samples just after the irradiation. Cell cultures were exposed to radiation doses of 7Gy and 15Gy of 6 MV photons from a clinical linear accelerator. At both doses, we observed a clear enhancing effect of radiation-induced damages due to the addition of DAO.

Keywords : D-amino Acid Oxidase (DAO) enzyme, magnetic particles, nanotechnology, radiation therapy enhancement
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