EFFECTS OF SPACE STRUCTURE AND COMBINATION THERAPIES ON INTRA-TUMOR HETEROGENEITY

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Abstract

We present a model that describes cell dynamics inside a tumor microspheroid under the effects of cytotoxic and cyostatic drugs. Cancer cells are assumed to be structured as a population by two real variables standing for space position and the expression level of a phenotype of resistance to cytotoxic drugs. The model takes explicitly into account the dynamics of resources and anti-cancer drugs as well as their interactions with the cell population under treatment. We analyze the effects of space structure and combination therapies on phenotypic heterogeneity.

REFERENCES