Tumor growth inhibition model based on a stochastic process.

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Abstract

The compartment model is a system of concentration or density over time in different compartments. In particular, in the tumor growth inhibition (TGI) model, tumor inhibition due to the lag of the drug effect has been explained by adding delays. This is represented by using various dummy compartments with linear tricks for a delay equation. Here, we use a stochastic process to derive the delay equations and give the physical meaning. It also introduces a new type of delay model that has not existed before.

Keywords: Pharmacokinetics and pharmacodynamics(PKPD), Fractional drug disposition, Fractional differential model(FDM). Anomalous kinetic, Fractional calculus, Fractional PKPD model, Stochastic PKPD, Stochastic process, Stochastic non-Markovian process, Tumor inhibition growth(TGI) model

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