

1096-34-2491

Qing Wang* (qwang@shepherd.edu), P.O. Box 935, Shepherdstown, WV 25443, and **David J. Klinke** (david.klinke@mail.wvu.edu) and **Zhijun Wang** (zwang@shepherd.edu). *Modeling and Qualitative Analysis of Immune Response to Tumor Growth.*

In this study, we developed a multi-scale non-spatial ODE model to describe a T cell mediated immune response to tumor growth. Model parameters were calibrated to some existing experimental data by a Markov Chain Monte Carlo (MCMC) algorithm. By quantifying the adenovirus-elicited T cell response and interactions between T cells, cytokines, and tumor cells, the validated model captured the modest suppression of tumor cell growth in a transplantable mouse model for metastatic melanoma. Stability analysis and its biological relevance were also discussed. The model provides a platform for in silico screening of optimal cancer treatment. This research has been supported by the NIGMS of the NIH grant as part of the WV-INBRE (P20GM103434). (Received September 17, 2013)