

We develop a mathematical model to examine the role of regulatory T cells during immunotherapy with IL-2. The model consists four ordinary differential equations describing the dynamics of the tumor cells, effector T cells, regulatory T cells and IL-2. The goal is to study the role of regulatory T cells, especially how does the ratio of regulatory T cells and effector T cells impact the outcome of the treatment. Through a combination of analytical studies and numerical simulations, our model reveals regulatory T cells play a key role during the treatment.