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*Mathematical Modeling for understanding the the Impact of eCD4-Ig molecule within an HIV  
Infected Host.* Preliminary report.

Even though there are treatments that prolongs the life of HIV infected people for decades, complete removal of virus for cure is still not observed experimentally. The new molecule called eCD4-Ig (discovered by Gardner et al in 2015) may give some hope in search of possibilities to eliminate HIV. Experiments in this direction revealed following properties: It is not immunogenic, has very broad neutralizing ability against all HIV, works with lower concentrations. Moreover, it protected monkeys from multiple introduction of SHIV virus and the protection lasted for at least 40 weeks. However, we are interested in effect of eCD4-Ig in human. An eCD4-Ig molecule is differ from many other broadly neutralizing antibodies (bNabs) as it neutralizes HIV virus through binding to two spots on a viral spike of HIV and blocking the interaction of CD4 T-cell and HIV virus. To understand dynamics of viral spikes, eCD4-Ig, CD4 cells, we have developed a mathematical model by incorporating interactions between this new molecule and other known immunological, virological information. We do model based speculations for management and elimination of virus. (Received September 19, 2016)