Mathematical model of dengue virus and antibody dependence enhancement

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We developed a mathematical model of interaction of B memory cells, target cells and dengue virus. We try to explore when the antibodies with no high affinity at interaction with dengue virus will generate antibody dependence enhancement. We found a reliance of viral increase with the proliferation parameter levels of cross-reactive antibodies. This dependence shows that even if the net number of virus is less than one there exists a large chance of viral increase.

References

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