

SUMMARY

In summary, the present thesis, demonstrates that M150 costimulates CD8⁺ T cells to mature into an effector cytotoxic T cells. The findings can briefly be summarized as follows:

1. Antibody raised against M150, in hamster, recognizes M150 on the surface of macrophages and LPS activated B cells but not on resting B cells.
2. This antibody inhibits CD8⁺ T cell response in MLR. Inhibition of MLR by anti-M150 varies and is determined by type of stimulator cells used. Blocking is maximum when macrophages are used as stimulator cells as compared to B cells. This signifies that M150 is a major costimulatory molecule as far as macrophages are concerned.
3. Isolated and liposomised M150 stimulates CD8⁺ T cells only in association with anti-CD3. This proves that it is a costimulatory molecule.
4. The activation of CD8⁺ T cells by M150 is mediated by signal transduction. Signaling through the TcR by anti-CD3 antibody or anti-TcR antibody in combination with M150 has a synergistic effect on the levels of calcium.
5. In response to M150, as costimulatory signal, a protein of 22-23 kDa is tyrosine-phosphorylated. Costimulation also results in the down regulation of CD45RB expression.
6. CD8⁺ T cells acquire granzyme A and perforin as a result of costimulation by M150.

7. The CD8⁺ T cells maintain the expression of Fas L only in case they are stimulated with both first (anti-CD3) and second signal (M150).
8. The anti-CD3 activated CD8⁺ T cells express Fas L only if stimulated with both first and second signal do not.
9. Anti-Fas antibodies fail to induce apoptosis in CD8⁺ T cells. These CD8⁺ T cells simultaneously express high levels of Fas L.