Immunosuppressive effect of heterologous anti-immunoglobulin antisera in mice
by Dean David Manning

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY in Microbiology
Montana State University

Abstract:
Neonatal injection of mice with rabbit anti-μ antiserum has been shown to produce complete loss of direct and indirect plaque forming responses to sheep erythrocytes as well as loss of serum IgM and severe depressions of all other serum immunoglobulins. Similar injection of antiς1&sigma,2 anti&sigma1antibodies effects a loss of the indirect response but induces relatively minor alterations in serum Ig levels. Delaying initiation of anti-μ treatment until young adulthood results in a somewhat diminished effect on plaque forming responses and serum Ig levels but triggers the release of high serum levels of an aberrant μ-bearing protein.

Anti-μ and anti-ς1ς2 antisera, although profoundly affecting humoral antibody production, are not capable of altering the course of homograft rejection in mice.

Anti-μ suppression of genetically thymusless mice indicates that at least part of the target cells for suppression are bone marrow derived. A working model for the maturation of humoral antibody producing cell lines as it relates to these data is discussed.

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