Antileucocyte sera at levels which could suppress antibody production by stimulated allogeneic lymph node cells could not suppress such cells if treated previously with an adequate amount of this solid adsorbent. In the in vitro system, in which the number of hemolytic antibody plaques produced by a given suspension of lymph node cells from appropriately stimulated rabbits can be reduced by the antileucocyte serum, this reduction was similarly prevented by absorption of the suppressive antiserum with ECTEOLA-bound soluble histocompatibility antigen. In the in vitro system it was also possible to show a simple competitive inhibition of the plaque-reduction effect by the antigen in solution.

For active induction of the rejection of transferred lymph node cells in recipient rabbits, it was necessary to inject the prospective recipients with the butanol-solubilized antigen twice, with an interval of at least 2–3 weeks. When rabbits which had received such injections were irradiated and then given transferred allogeneic lymph node cells stimulated with ferritin, the maximal titer of antiferritin produced by the transferred cells in these recipients was far below that found in normal control recipients of portions of the same cell suspension.

The demonstration of production of suppressive antibody in rabbits injected with the butanol-solubilized histocompatibility antigen was carried out with sera obtained from rabbits given injections of the soluble antigen as described in the previous paragraph, in which the injected rabbits were used as a source of serum rather than as recipients of transferred lymph node cells. When such sera were incubated with lymph node cells prior to transfer, it was found that the recipients of cells so treated were far below the antiferritin titers of control rabbits given cells incubated with normal rabbit serum. This suppressive effect could also be demonstrated in marked reductions in the number of hemolytic antibody plaques produced by suspensions of hemolysin-producing cells if these had been incubated with appropriate dilutions of these antisera, in comparison with the number of plaques produced by portions of the cell suspension not so incubated.

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TWO GROUPS OF TRANSPLANTATION ANTIGENS AND ANTIBODIES IN THE RABBIT

The data reported in this paper have resulted from studies of the serum antibody response of the rabbit to skin allografts as detected by antiglobulin consumption (AGC) and by mixed agglutination on cell cultures (MA). The standard experimental model was an adult rabbit which received two full-thickness skin allografts (10 by 5 cm) from a single donor. The second graft was applied 6 weeks after the first. Serum samples were obtained at weekly intervals throughout the experiment and for 2–4 weeks after the second graft.

In AGC, an antiglobulin serum of known titer was absorbed with particulate material (containing antigens) that had previously been treated with either test or control serum. The titer of the absorbed antiglobulin serum was then determined. The amount of antibody present on the particulate material was proportional to the fall in titer of the antiglobulin serum or consumed antiglobulin. The particulate material used as antigens in these studies was a liver powder prepared by desiccation of a liver suspension obtained from the donor rabbit. This material presumably made available to the serum both intracellular and cell-surface material for reaction.

In MA, test serum was reacted with monolayer cell cultures. These cultures