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Immunization with sensitized bacteria.By **HOMER F. SWIFT** and **RALPH A. KINSELLA**.*[From the Medical Clinic of the Presbyterian Hospital.]*

The object of the present study was to determine the relative immunizing property of various preparations of green streptococci. Two different strains of green-forming streptococci were used, both isolated from cases of acute rheumatic fever. The lethal dose of these organisms for mice, was from 0.1 to 0.5 c.c. of a twenty-four hours broth culture. The sensitized vaccine was prepared from a twenty-four hours broth culture, centrifugalized, washed, killed at 56°, strong anti-serum added, incubated one hour, washed and suspended in saline. Sensitized vaccines were always freshly prepared. Three different antibodies have been studied, agglutinins, complement fixing bodies and protective antibodies. Rabbits were immunized by first injecting dead organisms, later by living organisms and the comparative curve of antibody formation studied. With unsensitized vaccine there was strong formation of antibodies in from twelve to sixteen days, the curve for agglutinins, complement-fixing antibodies and protective antibodies running parallel. The animals immunized or rather injected with sensitized vaccines showed at times a late formation of weak agglutinins or complement-fixing antibodies. In no case have animals injected with sensitized vaccines shown the presence of protective antibodies. The protective antibodies we tested by injecting diminishing quantities of the rabbit serum with lethal doses of bacteria into mice.

Our conclusions from this experiment are that it is impossible to demonstrate the presence of antibodies in rabbits immunized with sensitized vaccines either living or dead. These results cannot be applied to immunization with all varieties of bacteria, because at present work in progress shows that agglutinins may be induced by the injection of sensitized pneumococci.