The current season influenza vaccines are not completely effective in providing protection. To increase the protective efficacy, adjuvants can be used to increase the immune response. In a previous study, we injected different groups of mice the adjuvant CpG encapsulated in fast or slow-releasing acetalated dextran (Ace-DEX) microparticles. We found that a similar degree of antigen-binding antibodies were produced by each formulation, but the degree of protection against influenza challenge differed. To assess the role of antibody effector functions, we performed a phagocytosis assay and a complement deposition assay. To do so, we made fluorescent beads coated with antigens. We incubated these beads with serum antibodies to create immune complexes. For the complement deposition assay, we assessed the deposition of complement on immune complexes using an Anti-C3 antibody. For the phagocytosis assay, we assessed the uptake of the immune complexes into a macrophage cell line. We determined that serum from mice vaccinated with slow releasing adjuvant had greater complement deposition and phagocytosis-inducing activity. These results indicate that increased effector functions may play a role in enhanced efficacy of the slow releasing adjuvant.