Abstract

We have investigated the activity of local Corynebacterium parvum (Propionibacterium acnes) as an immunopotentiator of allergic contact dermatitis (ACD) and photo-ACD in rodents. C. parvum given into the sensitization site, but not at a distance, increased the delayed-type hypersensitivity to the chemical allergen. An immunoadjuvant effect could be realized even when C. parvum was given several days after allergen; it was readily obtained in B cell-deficient mice. Cyclophosphamide pretreatment heightened the immunopotentiation seen with local C. parvum. It is unlikely that the specific immunopotentiation by C. parvum is mediated by enhanced macrophage processing of antigen, as proposed by others, since C. parvum immunostimulation occurs just as well 2 days after allergen as on the same day as allergen. We hypothesize that a major mechanism of C. parvum immunopotentiation is the inhibition by stimulated macrophages of the generation of specific T suppressor cells.

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