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Abstract

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The influence of Propionibacterium acnes (Corynebacterium parvum) fractions on immune response in vivo.

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Abstract

Bacterin of Propionibacterium acnes (Corynebacterium parvum), its cellular fractions (lipids, fractions obtained by mechanical disruption and differential centrifugation, by phenol-water and pyridine extractions), and a polysaccharide from culture filtrate were prepared and tested in mice. The activation of RES by splenomegaly and hepatomegaly, prevention of listerial infection, prevention of the lethal effect of sarcoma 180, and depression of liver microsomal cytochrome P-450 were employed. The bacterin was effective in all tests. Lipid-free cells were less active, in particular in the activation of RES and in the listerial infection model. Fractions prepared by the disruption and differential centrifugation lost their activity in all tests along with a decrease in molecular weight. Lipids extracted by ethanol caused pronounced splenomegaly and decreased the cytochrome P-450 content. The residue left after the phenol-water extraction was very active, its delipidation did not destroy the activity. Pyridine extraction provided a completely inactive extract, but a very active residue. The possibility of reducing the complexity of bacterin while preserving immunomodulatory effect is demonstrated.

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MeSH Terms, Substances

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