

Mechanisms of anti-tumor action of *Corynebacterium parvum*. I. Potentiated tumor-specific immunity and its therapeutic limitations

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Abstract

The anti-tumor mechanism in mice induced by a subcutaneous injection of syngeneic tumor cells admixed with *Corynebacterium parvum* was investigated. When mice were implanted in a hind footpad with $\times 2$ 1096) tumor cells admixed with 100 microgram *C. parvum*, the tumor that emerged grew progressively for about 9 d and then underwent progressive and complete regression. It was found that this *C. parvum*-induced regression was associated with the acquisition of a systemic, T cell-mediated mechanism of immunity to tumor-specific transplantation antigens, which enabled the host to cause the regression of an untreated test tumor growing simultaneously at a distant site. The generation of a *C. parvum*-potentiated anti-tumor response was dependent on the presence of tumor cells in close association with *C. parvum*, tumor immunogenicity, and the quantity of tumor antigen in the admixture. The anti-tumor immunity was specific for the tumor in the therapeutic admixture and could be adoptively transferred to normal recipients with Thy-1.2-positive lymphocytes, but not with serum. Complete regression of a distant test tumor by the *C. parvum*-tumor admixture was limited to tumors below a certain critical size.

Full Text

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Selected References

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