

A germanium compound induces interferon and activates NK cells and macrophages in mice.

- GreenMedInfo Summary

Abstract Title:

Induction of interferon and activation of NK cells and macrophages in mice by oral administration of Ge-132, an organic germanium compound.

Abstract Source:

Gan To Kagaku Ryoho. 1982 Nov;9(11):1976-80. PMID: [6191691](#)

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Abstract:

After oral administration of an organic germanium compound, Ge-132 (300 mg/kg), a significant level of interferon (IFN) activity was detected in the sera of mice at 20 hr and it reached a maximum of 320 U/ml at 24 hr. This IFN activity was lost after heat- or acid-treatment, suggesting that the induced IFN is of gamma nature. The molecular weight of this IFN was estimated to be 19,000 daltons by gel filtration. After the oral administration of Ge-132, NK activity of spleen cells had increased at 24 hr and cytotoxic macrophages were induced in the peritoneal cavity at 48 hr. In mice, receiving intraperitoneal (i.p.) injections of trypan blue or carrageenan 2 days before oral administration of Ge-132, neither induction of IFN nor augmentation of NK activity followed. X ray irradiation of mice also rendered the mice incapable of producing IFN, all suggesting that both macrophages and lymphocytes are required for this IFN induction. After i.p. administration of induced IFN, both NK and cytotoxic macrophage activities appeared at 48 hr with as little as 20 U/ml titered IFN. These facts may indicate that the augmentation of NK and activation of macrophages in mice after oral administration of Ge-132 is mediated by induced IFN.

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Study Type: Animal Study

Additional Links

Substances: [Germanium : CK\(12\) : AC\(7\)](#)

Diseases: [Immune Disorders: Low Immune Function : CK\(489\) : AC\(118\)](#)

Pharmacological Actions : [Immunomodulatory : CK\(1287\) : AC\(358\)](#), [Interferon Inducers : CK\(31\) : AC\(9\)](#)