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The Influence of Extremely Low Frequency (ELF) Magnetic Fields Induction to The Production of IFN-γ On Balb/C Mice

Abstract

The increasing intensity of Extremely Low Frequency (ELF) magnetic fields exposure in the environment by electric tools in fact is higher than the increasing intensity of ELF electric fields exposure. The maximum intensity around the tools is about 10 \( \mu \text{T} \). The aim of this research was to study the mechanism of the IFN-γ expression alteration on Balb/c mice exposed ELF magnetic fields at 20 \( \mu \text{T} \) intermittently 8 hours per day for 15 days and 30 days. It is very important because IFN-γ is the molecule that is expressed at Th-1 cell surface, and its role is to increase the interaction activity among cells that have signal transduction function to control T-cell activity. Besides, IFN-γ has cellular effects i.e., obstructing cell proliferation and tumor growth. The result of the research showed that ELF magnetic fields induction intermittently for 15 days and 30 days had influenced the decreasing production of IFN-γ on Balb/c mice.

Keyword: Extremely, low, frequency, magnetic, fields, IFN-γ,