

Evaluation of Mutagenicity by Exposure to Intermediate Frequency Magnetic Fields in *in Vitro*

Masateru IKEHATA Satoshi NAKASONO Kanako WAKE

Yukihisa SUZUKI Sachiko YOSHIE Toshio HAYAKAWA

In this study, we have investigated the mutagenic potential of intermediate frequency (IF; from 300Hz to 10MHz) magnetic fields (MFs), because the biological effects of IF MFs have not been studied sufficiently, although several technologies and equipments that generate IF MFs have already used at home and in industry field. We employed bacterial mutation assay (Ames' assay) and mouse lymphoma assay (MLA) as a battery of mutagenicity tests. Mutagenicity of exposure to IF MFs for 48 hours was examined in 2 and 20 kHz, up to 1.1mT that is over one hundred times higher than the ICNIRP international guideline. No mutagenic potential was visible in both mutagenicity tests under every test condition. These results suggest that IF MFs are unlikely to have mutagenicity.