International Validation Project of the NTP Study on Carcinogenesis of Mobile-Phone Radiofrequency Radiation: An introduction

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Cellphone radiofrequency radiation has been classified as possibly carcinogenic to human (Group 2B) by International Agency for Research on Cancer (IARC) in 2011. US NTP had reported a partial finding of 2-year animal study and had claimed that cellphone RF radiations exposure to both GSM- and CDMA-modulated RFR were carcinogenic in heart (schwannoma) and brain (gliomas) of male rats, in 2016. Although the NTP study was a well-designed largest-ever animal study, it was a single study. Since then necessity of repeated or further validation study was constantly raised by international experts with several criticisms.

The international collaborative animal study, as a NTP validation study, started simultaneously in both Japan and Korea in 2019 and will continue until 2023. For this study, the reverberation chamber system was custom-designed by Electronics and Telecommunications Research Institute (ETRI) and Nagoya institute of Technology (NIT). Four chambers were manufactured (Korea Shield System LTD, Cheongju, Korea) and two were installed in each of the Korea Institute of Toxicology (KIT, Daejeon, Korea) and DIMS Institute of Medical Science (DIMS, Ichinomiya, Japan). The verification of those chamber systems were performed by ETRI and NIT. The animal study consisted of a 28-day toxicity study and a 2-year carcinogenicity study. These animal studies are being conducted in Korea Institute of Toxicology (KIT, Daejeon, Korea) and DIMS Institute of Medical Science (DIMS, Ichinomiya, Japan) under the same study protocol.

In this presentation, we would like to introduce the research protocols and a current progression of this study.

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