



Recent scientific publications relevant to mobile telephony

October 2006

Details

Australia: An in vitro study of the effects of exposure to a GSM signal in two human cell lines: Monocytic U937 and neuroblastoma SK-N-SH, [Gurisika et al, Cell Biology International](#), 30(10):793-799, October 2006.

'...From our study of these two cell lines, we found no significant difference between sham-exposed versus radiofrequency-exposed cells in any of the assays or conditions examined.'

Canada: Monitoring the effects of mobile phone use on the brain by proton magnetic resonance spectroscopy [MRS], [Khiat et al, International Journal of Radiation Biology](#), 82(9):681-685, September 2006.

'...No statistically significant changes in the NAA/Cr, Cho/Cr and mI/Cr ratios were measured between mobile phone users and control subjects and between the exposed and contralateral temporal areas...These results indicate that extensive exposition to mobile phone radiation does not cause MRS-detectable brain metabolic changes.'

China: Effects of 1.8 GHz radiofrequency field on DNA damage and expression of heat shock protein 70 in human lens epithelial cells, [Lixia et al, Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis](#), Available Online: 2 October 2006.

'...The results indicate that exposure to non-thermal dosages of RF for wireless communications can induce no or repairable DNA damage and the increased Hsp70 protein expression in hLECs occurred without change in the cell proliferation rate. The non-thermal stress response of Hsp70 protein increase to RF exposure might be involved in protecting hLEC from DNA damage and maintaining the cellular capacity for proliferation.'

France: Effect of GSM-900 and -1800 signals on the skin of hairless rats. II: 12-week chronic exposures, [Sanchez et al, International Journal of Radiation Biology](#), 82(9):675-680, September 2006.

'...GSM-900 or -1800 radiations at specific absorption rate (SAR) 2.5 and 5 W/kg...The results of this 12-week chronic study do not demonstrate major histological variations in the skin of hairless rats exposed to RFR used in mobile telephony (GSM-900 or -1800).'

France: No apoptosis is induced in rat cortical neurons exposed to GSM phone fields, [Joubert et al, Bioelectromagnetics](#), Published Online: 26 September 2006.

'...No statistically significant difference in the apoptosis rate was observed between controls and 24 h GSM-exposed neurons, either 0 h or 24 h post-exposure...These results showed that, under the conditions of experiment used, GSM-exposure does not significantly increase the apoptosis rate in rat primary neuronal cultures. This work is in accordance with other studies performed on cell lines and, to our knowledge, is the first one performed on cultured cortical neurons.'

Germany: Carcinogenicity study of GSM and DCS wireless communication signals in B6C3F1 mice, [Tillmann et al, Bioelectromagnetics](#), Published Online: 3 October 2006.

'...In conclusion, the present study produced no evidence that the exposure of male and female B6C3F1 mice to wireless GSM and DCS radio frequency signals at a whole body absorption rate of up to 4.0 W/kg resulted in any adverse health effect or had

any cumulative influence on the incidence or severity of neoplastic and non-neoplastic background lesions, and thus the study did not provide any evidence of RF possessing a carcinogenic potential.'

Germany: Genotoxic effects of exposure to radiofrequency electromagnetic fields (RF-EMF) in cultured mammalian cells are not independently reproducible, [Speit et al, Mutation Research/Genetic Toxicology and Environmental Mutagenesis](#), Available Online: 25 September 2006.

'...For both tests, clearly negative results were obtained in independently repeated experiments...The reasons for the difference between the results reported by the REFLEX project and our experiments remain unclear.'

Italy: Electromagnetic fields produced by GSM cellular phones and heart rate variability, [Parazzini et al, Bioelectromagnetics](#), Published Online: 26 September 2006.

'...The analysis of the data show there was no statistically significant effect due to EMF exposure both on main (i.e., RR mean) and most of the other HRV parameters. A weak interaction between some HRV parameters (i.e., SDNN, TINN, and triangular index in time domain and LF power in frequency domain analysis) and RF exposure was observed and this effect seems to be gathered around the sympathetic response to stand.'

Japan: Effect of GSM-900 and -1800 signals on the skin of hairless rats. I: 2-hour acute exposures, [Masuda et al, International Journal of Radiation Biology](#), 82(9):669-674, September 2006.

'...local Specific Absorption rate (SAR) at skin level was ca. 5 W/kg...results do not demonstrate any major physical and histological variations at skin level induced by RFR used in mobile telephony.'

Japan: Effects of thirty-minute mobile phone use on visuo-motor reaction time, [Terao et al, Clinical Neurophysiology](#), Available Online: 26 September 2006.

'...Thirty minutes of mobile phone use has no significant short-term effect on the cortical visuo-motor processing as studied by the present PCRT task...This is the first study to investigate visuo-motor behavior in relation to mobile phone exposure. No significant effect of mobile phone use was demonstrated on the performance of the visuo-motor reaction time task.'

Japan: Mobile phone base station-emitted radiation does not induce phosphorylation of Hsp27, [Hirose et al, Bioelectromagnetics](#), Published Online: 26 September 2006.

'...Our results confirm that exposure to low-level RF field up to 800 mW/kg does not induce phosphorylation of hsp27 or expression of hsp gene family.'

Japan: Role of blood flow on RF exposure induced skin temperature elevations in rabbit ears, [Jia et al, Bioelectromagnetics](#), Published Online: 26 September 2006.

'...under normal blood flow conditions, exposures at 2.3 and 10.0 W/kg, approximating existing safety limits for the general public (2 W/kg) and occupational exposure (10 W/kg), did not induce significant temperature rises in the rabbit ear. However, 2.3 W/kg induced local skin temperature elevation under no blood flow conditions. Our results demonstrate that the physiological effects of blood flow should be considered when extrapolating modeling data to living animals, and particular caution is needed when interpreting the results of modeling studies that do not include blood flow.'

Sweden: Tumour risk associated with use of cellular telephones or cordless desktop telephones, [Hardell et al, World Journal of Surgical Oncology](#) 4(1):74, 11 October 2006.

'...We found for all studied phone types an increased risk for brain tumours, mainly acoustic neuroma and malignant brain tumours. OR increased with latency period, especially for astrocytoma grade III-IV. No consistent pattern of an increased risk was found for salivary gland tumours, NHL, or testicular cancer.'

The MMF is an international association of wireless communications manufacturers established to support scientific research in relation to mobile telephony and health www.mmfai.info

The GSM Association (GSMA) is the global trade association that exists to promote, protect and enhance the interests of GSM mobile operators throughout the world. www.gsmworld.com

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