

Thermal Thresholds of Restrained RF Exposed Mice at 905MHz

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The objective of this study is the determination of the thermal regulatory and the thermal breakdown thresholds for restrained B6C3F1 and NMRI mice exposed to radiofrequency electromagnetic fields at 905 MHz at environmental conditions of 22±2 degree Celcius and 30 - 70% humidity. Different levels of the whole-body averaged specific absorption rate (SAR = 0, 2, 5, 7.2, 10, 12.6 and 20W/Kg) have been applied to the mice, and their body temperature was rectally measured prior, during and after the 2h exposure session in a parallel plate waveguide setup. For B6C3F1 mice, the thermal response was examined for three different weight groups (20g, 24g, 29g), both genders and for pregnant mice. Additionally, NMRI mice with a weight of 36g were investigated for an interspecies comparison. The thermal regulatory threshold of tube restrained mice was found at SAR levels between 2 W/kg and 5 W/Kg. The breakdown of regulation was determined at 10.1±2.0 W/kg (k=1) for B6C3F1 mice and 7.7±0.8 (k=1) W/kg for NMRI mice. Assuming a normal distribution, the thermal breakdown threshold would be as low as 6 W/kg (k=2).