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Using a Modified, Safer Ames Test and Drosophila Melanogaster to Determine the Mutagenic Effects of Low-Frequency Radiation on Living Systems. RYAN GRZYMALA[1], None — Cell phones and radar emit low-frequency radiation. This has driven some to question whether these items cause adverse effects such as cancer, given the amount of time people are exposed to them. Using Drosophila Melanogaster (DM) and an E. coli variation of the Ames test, the living systems were exposed to both cell phone and radar low-frequency radiation. Trial A results of cell phones and radar exposure were inconclusive due to the experimental controls. For the next four trials, several new controls were implemented including duration of exposure (1, 2, and 8 hours), an active cell phone call instead of the cell phone simply powered on, monitoring temperature and humidity more frequently, and changing the species of DM to one with all recessive traits. These new trials resulted in a 0% mutation rate for all groups and all exposure times. Additionally, all populations of the tubes followed the same trend over the three generations, thus showing that exposure to both cell phone and radar low frequency radiation yielded no effect on the birthrate of DM. For the modified Ames test with E. coli, after exposure, the results showed a coloration that was defined as being non-toxic. In conclusion, both tests support the theory that cell phones and radar do not increase mutation rates.

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None

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