

EMF STUDY - Human Cells in Incubator, EMFs, & Calcium Levels

Summary by Dr Vita Maziveyi

Recent decades have seen a sharp increase in the use of electronic devices, smart meters, and other devices that emit extremely low frequency electromagnetic fields (ELF-EMF). LF EMFs are non-ionizing frequencies of energy that exist on the lower spectrum of energy. While some questions have been raised about the potential adverse health effects of EMFs, numerous studies have demonstrated biological changes that result from EMF exposure. These biological changes include alterations in sperm motility, gene expression¹, cell growth, and tissue repair.² Despite strong evidence of changes within cells, the mechanisms of these biological alterations are poorly understood.

Interestingly, dozens of studies have shown that EMF exposures act through the activation of voltage-gated calcium channels (VGCCs), which are responsible for transporting calcium into cells.³ For example, a study by Zhi-cheng Sun, et al⁴ was the first to demonstrate that exposure to EMFs causes an influx of calcium into neuronal cells. These results make sense since it has been well established that calcium is affected by magnetic fields. Dr. Martin Pall proposed that L-Type VGCCs have the greatest increase in intracellular calcium⁴. Conversely, EMF exposure can decrease the levels of intracellular calcium when there are other VGCC subtypes, including N-type, P/Q type, and T-type blockers. Further studies are necessary in order to elucidate the mechanisms by which EMFs affect the body.

EMF Solutions is a company that produces EMF remediation products from earth made materials to reduce the toxic load of EMFs. These products work by reducing the subatomic chaos transmitted from EMFs. If these products are effective for remediation, then they should theoretically reverse the intracellular calcium levels brought on by EMF exposure. To test this, I grew skin, liver, breast and colon cells in a cell chamber (37°C, 5% O₂) next to a Wi-Fi router and attempted to remediate the environment with products from EMF Solutions. For remediation, the Device Chip was placed in the chamber that the cells were grown in and the XL Home Harmonizer Box was placed behind the cell chamber. As a control, another group of sister cells were observed in another chamber without any remediation. After 24 hours, I observed the levels of intracellular calcium, and the results are shown in Figure 1.

In this study, exposure to EMFs significantly altered the levels of intracellular calcium in skin and breast cells. Impressively, remediation with the products from EMF Solutions was able to reverse the EMF-induced intracellular calcium levels in skin and breast cells. This is a significant finding since skin cells receive direct exposure to the frequencies and breast cells are just under skin tissue. The liver and colon cells, which are within the abdominal cavity, did not have a statistically significant change in EMF-induced intracellular calcium levels, and therefore, remediation had no effect on their calcium levels. This means that remediation with the products from EMF Solutions worked specifically for cells that are affected by EMFs. Taken together, the results from these experiments demonstrate that the Device Chip and XL Home Harmonizer Box effectively normalized calcium levels that were induced by EMF exposure.

1 <https://pubmed.ncbi.nlm.nih.gov/25918601/>

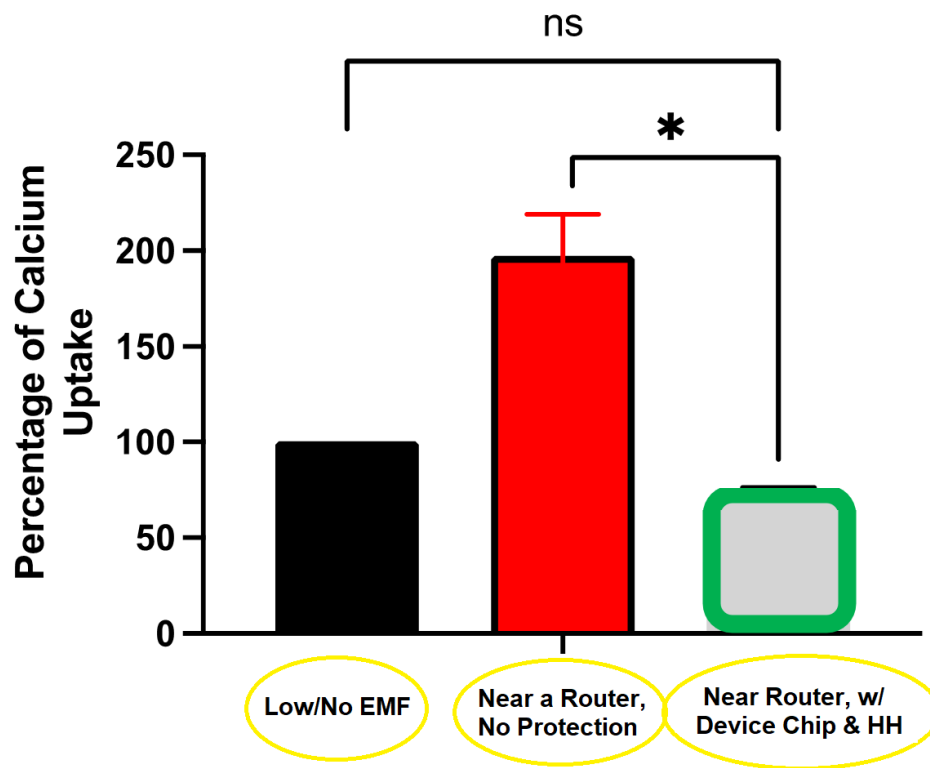
2 <https://pubmed.ncbi.nlm.nih.gov/23674517/>

3 <https://pubmed.ncbi.nlm.nih.gov/23802593/>

4 <https://www.nature.com/articles/srep21774>

FIGURE A:

Calcium Change in Human Fibroblast Cells from Wi-Fi



Each bar above = avg of > 4,000 cells

ns $p > 0.05$ no significant difference between "No EMF" & "Router with product"

***** $p < 0.0001$ = there is the highest confidence in statistical significance