

Does EMF damage tissue which becomes antigenic?  
 Does EMF alter the way damaged cells attract responses?  
 Does EMF alter the function of immune response cells?  
 Does EMF alter membrane permeability so antigens penetrate tissues?  
 Does EMF deplete genetic and cellular repair mechanisms or divert them?

**"GAME CHANGING" STUDY**  
[BIOINITIATIVE REVIEW](#)  
[NTP: CELLPHONES, CANCER](#)

**BIOINITIATIVE REPORT 2012**  
 IMMUNE SYSTEM EFFECTS  
 BRAIN TUMORS  
 CHILDHOOD CANCERS  
 BREAST CANCER

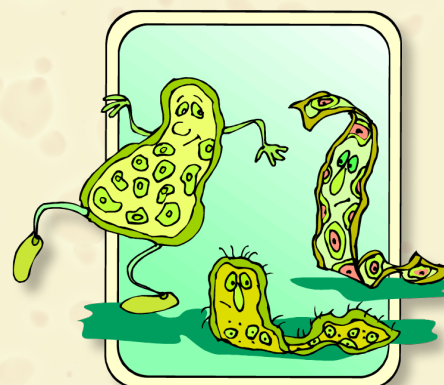
**IMMUNE EFFECTS OF EMF**

*Allergic responses*  
*Disturbance in sleep repair functions*  
*Penetration of membrane barriers*  
*Increased stress hormones*  
*Antigenic structural expression*  
*Inflammatory responses*  
*Less effective DNA repair*  
*Increased allostatic load*  
*Free radical injuries*  
*Increased macrophage activation*  
*Altered calcium signaling*  
*Altered gene expression*  
*Blood cell parameter changes*  
*Decreased natural killer cell function*

Home: [Oscillatorium](#)  
 Newest version [this map](#)  
 Date of this update: 03-23-20

**RELATED MAPS**

[Calcium Efflux](#)  
[EMF and Biofilms](#)  
[EMF and the Brain](#)  
[EMF and the Blood](#)  
[DNA/RNA and EMF](#)  
[Mast Cell Response](#)  
[Free Radical Activity](#)  
[Melatonin Hypothesis](#)  
[EMF and Membranes](#)  
[EMF Toxin Interactions](#)  
[Electro-Hypersensitivity](#)  
[NeuroInflammation, EMF](#)



**EMF,  
 CANCER OVERVIEWS**  
 AND OTHER EFFECTS IN THE  
**IMMUNE SYSTEM**

[DR. OLLE JOHANSSON](#)  
 IMMUNE SYSTEM DISTURBANCE

[DR. JOEL MOSKOWITZ](#)  
 EMF AND CANCER

★ [SEE MAP ON 5G](#)

[VIDEO: EMF AND CANCER](#)

[EMF, CANCER PROMOTION](#)

**CANCER AND EMF**

[Brain tumors](#)  
[Breast cancer](#)  
[Thyroid cancer](#)  
[Prostate cancer](#)  
 ★ [Parotid tumors](#)  
 ★ [Adrenal tumors](#)  
[Childhood leukemia](#)  
[Malignant melanoma](#)  
[Salivary gland tumors](#)  
[Non-Hodgkin lymphoma](#)

**EMF Studies**

[EMF, cellular damage](#)  
[RF, acoustic neuroma](#)  
[EMF, calcium signaling](#)  
[ELF, childhood leukemia](#)  
[MF, childhood leukemia](#)  
[MW, immunologic effects](#)  
[MF, inflammatory cytokines](#)  
[RF, vestibular schwannoma](#)  
[RF, phagocytosis, chemotaxis](#)  
[Mobile phones, parotid tumors](#)  
[ELF, NADPH, immune system](#)  
[EMF exposure, human disease](#)  
[Mobile phones, pituitary tumors](#)  
[RF, enzyme function, leukemias](#)  
[RF, interaction with lymphocytes](#)  
[MF, decreased NK cell activities](#)  
[EMF, multiple effects, exposures](#)  
[Powerlines, bio-effects, leukemia](#)  
[ELF, Europe, childhood leukemia](#)  
[RF, downregulated T-helper cells](#)  
[ELF, macrophage activation, rats](#)  
[RF, glioblastoma, reduced survival](#)  
[ELF, immune effects, rainbow trout](#)  
[EMF, breast cancer meta-analysis](#)  
[EMF, immune function in operators](#)  
[MW/RF, bio-effects, immune function](#)  
[ELF, multiple effects, immune effects](#)  
[RF, prenatal dev., thymus, spleen, rat](#)  
[MF-ELF, endocrine/immune responses](#)  
[EMF/RFR, immune system in autism, I](#)  
[Meta-analysis, ELM, pooled cancer risk](#)  
[EMF/RFR, immune system in autism, II](#)  
[EMR, blood indices of immune function](#)  
[MF, calcium signaling, immune function](#)  
[ELF, macrophage activation, hypothesis](#)  
[Mobile phone EMF, thyrocyte proliferation](#)  
[EMF-ELF, genetic, other immune changes](#)  
[EMF-ELF, bacteria, suppression of caspase-9](#)  
[Mobile phones, bras, aggressive breast cancer](#)  
[Wireless phones, case studies, glioma, Sweden](#)  
[Amateur radio operators, acute myeloid leukemia](#)  
[Wireless phones, decreased survival, glioblastoma](#)  
[Sub-thermal RF, changes in thymus activity, structure](#)

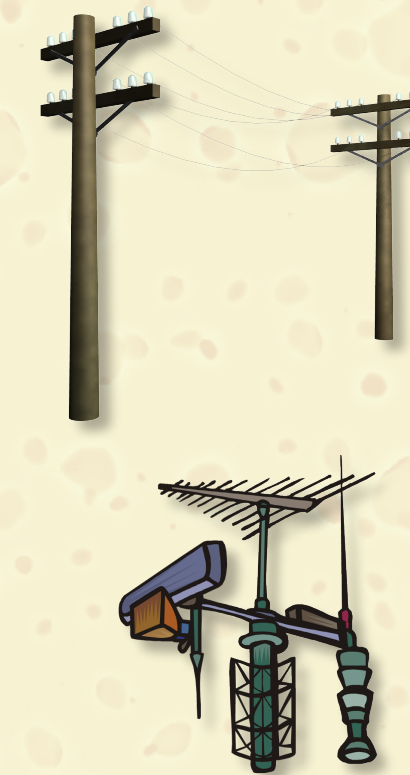
**New Studies**

★ [RF, macrophage dysfunction](#)  
 ★ [NTP Study, Cellphones, Cancer](#)  
 ★ [EMF, disturbance of immune system](#)  
 ★ [Mobile phones, gliomas, meta-analysis](#)  
 ★ [EMF, cellphones, caller, auto-immunity](#)  
 ★ [Electrosmog and Autoimmune disease](#)  
 ★ [EMF, immune system, calcium signaling](#)  
 ★ [Cell antennas, blood and immune system](#)  
 ★ [1.8 GHz, immune, stress dysfunction, rats](#)  
 ★ [EMF, calcineurin, opportunistic infection risk](#)  
 ★ [Mobile, cordless phones, brain tumors, Sweden](#)  
 ★ [Mobile phone use compromises, immune system](#)  
 ★ [Mobile phones, glioma distribution, INTERPHONE](#)

**EMF AND PANDEMICS:**  
 ★ [DR. ARTHUR FIRSTENBERG](#)  
[THE INVISIBLE RAINBOW](#)

**EMF AND THE IMMUNE SYSTEM:**  
 ★ [DR. MAGDA HAVAS](#)  
[5G AND CORONAVIRUS CONNECTION?](#)

**EMF Articles**



[FM transmitters, melanoma](#)  
[EMF linked to cancer, ill health](#)  
[Radio Waves Make You Sicker](#)  
[EMF and Your Immune System](#)  
 ★ [Cellphones and Breast Cancer](#)  
[Carcinogenicity: Evidence Mounts](#)  
[Dr. Oz: Keep cellphone out of bra](#)  
 ★ [Weak magnetic fields and cancer](#)  
[Brain tumor rates are rising in the US](#)  
[EMFWise: immune and other effects](#)  
[Mobile phones, salivary gland cancer](#)  
[Mobile phones could triple tumor risk](#)  
[Power lines, leukemia, other diseases](#)  
[Crohn's disease, wireless technologies](#)  
[MW News: Summary EPA, EMF, cancer](#)  
 ★ [Smartphones, brain cancer risk increased](#)  
 ★ [Cellphones, cordless phones, brain cancer](#)  
[Do Cellphones Weaken Disease Resistance?](#)  
 ★ [Link between EM Pollution and Lyme Disease](#)  
 ★ [Blocking EMF improves auto-immune response](#)  
[Italian Supreme Court: mobile phones cause cancer](#)