COMMENT TO THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Request for Information on Electromagnetic Fields (EMFs), Radiofrequency (RF) Radiation, and Wireless Radiation Exposure

Docket: HHS-OASH-2026-0397

Deadline: October 21, 2026, 11:59 p.m. EDT

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Location: Mesa, Arizona, United States

Q2 — Perspective: healthcare professional; research entity (independent physician-scientist and inventor).

Purpose

I submit two already public documents that address biological effects of ionizing and non-ionizing electromagnetic radiation, including radio waves used in mobile telecommunications (5G). They are offered as emerging, hypothesis-generating evidence and as a research-gap statement — not as proof that any product prevents RF-related disease, and not as a commercial solicitation.

Documents submitted

1. U.S. Patent No. 11,969,452 B2 (granted April 30, 2024). Processes, methods and rationale for manufacturing pre-probiotic dietary supplements aimed at protecting the human body from the harmful effects of electromagnetic radiations through quantum entanglement of DNA repair genes elicited by natural superluminal particles inducing photosynthesis via Cherenkov effect. Inventor: Marco Ruggiero. Related publication: US 2022/0401502 A1. Public record: https://patents.google.com/patent/US11969452B2

2. Ruggiero M. ***Experimental Evidence for the Role of Natural Radioactivity in Influencing Viability of Commensal Microorganisms.*** **American Journal of Immunology. 2021;17(1):14–24. DOI: 10.3844/ajisp.2021.14.24. https://thescipub.com/abstract/10.3844/ajisp.2021.14.24**

The granted patent cites the 2021 paper. Both documents are public. No proprietary manufacturing details beyond the issued specification, and no personally identifiable or protected health information, are included.

Q4 / Q12 — Observations and evidence relevant to RF/EMF below current federal limits

The 2021 paper reports that culturing commensal and probiotic microorganisms in commercially available, naturally radioactive carbonated mineral waters yielded approximately one order of magnitude more viable cells than culture of the same organisms in deuterium-depleted water. Co-culture of radiation-resistant edible cyanobacteria (Arthrospira) with a multi-strain probiotic blend, in the presence of plant-derived silica from Equisetum arvense, was used to test whether radio-resistance traits could be transferred. In silico observations suggested induction of microbial DNA-repair genes under those conditions. The paper also records preliminary observations in persons exposed to common household and wireless fields under real-life conditions. Those human observations are not a randomized controlled trial.

These data do not establish that current FCC exposure limits are unsafe. They do support three points that current thermal-only standards do not capture:

1. Published work outside this submission reports that radiofrequency exposure can alter microbiota composition, increase reactive oxygen species, and impair macrophage function. Those endpoints are largely absent from SAR-only frameworks.
2. A biologically plausible target for low-level RF is therefore not only tissue heating or glioma epidemiology, but commensal ecology, innate immunity, and DNA-repair capacity.
3. If those pathways matter, research limited to specific absorption rate and selected cancer outcomes will miss them.

A USPTO grant attests novelty and utility as legal criteria. It is not independent clinical validation of efficacy, and it does not establish the quantum-biological rationale in the specification as settled physics. I ask HHS to treat US 11,969,452 B2 as a documented, examinable hypothesis of a biological countermeasure, and to keep established findings distinct from emerging mechanistic language.

Q13 — Cumulative exposure from listed technologies

The submitted work specifically contemplates radio waves used in mobile networks, including 5G, together with everyday appliance and wireless exposure. That is the multi-source, near-body, long-duration pattern listed in the RFI (mobile phones, Wi-Fi, wearables, wireless medical devices, infrastructure). Federal reviews should not isolate a single device class from simultaneous multi-frequency exposure.

Q16 — Highest-priority research gaps

4. Pre-registered, standardized assays of RF effects on human-relevant microbiota and phage populations at intensities below current federal limits.
5. Combined endpoints: oxidative stress, macrophage function, microbial and host DNA-repair gene expression, with clinical secondary markers (for example heart-rate variability and sleep) rather than cancer incidence alone.
6. Independent, controlled evaluation of biological mitigation strategies, including but not limited to the composition described in US 11,969,452 B2, with falsifiable microbial and immunological endpoints first.
7. Explicit separation, in any HHS synthesis, of established findings from emerging mechanistic hypotheses.

Q17 — Coordination among federal health agencies

NIH is the appropriate home for investigator-initiated and intramural studies on microbiota and non-thermal RF bioeffects, with mandatory data sharing. FDA should evaluate any ingested or topical product positioned for radiation protection inside the applicable drug, biologic, or structure/function framework — not inside an RFI comment. CDC can contribute surveillance of symptom clusters and occupational exposure without treating anecdote as causation.

Offer

I can provide the full text of the 2021 paper, the granted patent specification, and a short methods note on the culture conditions if HHS requests them through the docket contact. I have no confidential annex.

Respectfully submitted,

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September 23, 2026