

**A significant new way to eliminate antibiotic-resistant bacteria.
Method for exciting a mechanical resonance in
a structural component of a bacterium**

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Fact: Too many deaths in intensive care units due to multidrug-resistant bacteria.

A new research approach to combat the current high mortality rate due to nosocomial infections caused by resistant germs.

The question arises: can artificially increasing the natural frequency of bacteria exert a destructive resonance on the bacterial wall or other bacterial compartments.

Our goal: to significantly inhibit the growth of both Gram-negative and Gram-positive bacteria.

This required careful determination of the exact strain-specific natural frequency of the various bacteria. The excitation of the determined frequencies and their destructive effect were finally achieved with specially modulated electromagnetic fields in a specially developed method and patented devices (European, US and Canadian Patents, Patent Office, The Hague, PCT/EP2021/083802).

Initially, apathogenic lactobacilli were studied and when the basic principles were known, the experiments were extended to human pathogenic and highly pathogenic bacterial strains. Applications with the self-developed devices of various sizes were first tested with bacteria on slides, then the bacteria were used in human cell cultures, chicken meat, bone and bone marrow, and medical catheter tips. With a single application of 65 minutes, a significant reduction in the growth of pathogenic bacterial strains of 52% and 89% occurred in all tests.

The hypothesis is that the mechanism of growth inhibition is through frequency-controlled electromagnetic fields specific to individual bacterial strains that damage bacterial components such as the cell wall.

Specific electromagnetic field settings for relevant bacteria are compiled in a catalog. It is expected that an adjustment (update) will be necessary as pathogen resistance changes; this is being worked on.

The human pathogens used (Gram neg. and Gram pos.) will be exposed to frequency modulated electromagnetic fields specific to each germ using the same method and compared and quantified with unexposed bacterial solutions from the same sample. Evaluation was performed by counting colonies after 24 hours of incubation.

Summary:

Purpose: To significantly inhibit the growth of both Gram-negative and Gram-positive bacteria in case of antibiotic resistance.

The modulated excitation of the frequencies and their destructive effect is achieved by using specially tailored modulated electromagnetic fields in our devices and the method we have developed and patented.