

Stimulating brain waves prompts immune cells to fight against Alzheimer's disease

Discoveries that transcend boundaries are among the greatest delights of scientific research, but such leaps are often overlooked because they outstrip conventional thinking. Take, for example, a new discovery for treating dementia that defies received wisdom by combining two formerly unrelated areas of research: brain waves and the brain's immune cells, called microglia.

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Biologists studying microglia don't tend to read papers about brain waves, and brain wave researchers are generally unaware of glial research. A study that bridges these two traditionally separate disciplines may fail to gain traction. But this study needed attention: Incredible as it may sound, the researchers improved the brains of animals with Alzheimer's simply by using LED lights that flashed 40 times a second. Even sound played at this charmed frequency, 40 hertz, had a similar effect.

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Of course, it may still be a while before such treatments are available for patients. And even then, there may be side effects. "Rhythmic sensory stimulation likely affects many types of cells in brain tissue," [neuroscientist Li-Huei] Tsai said. "How each of them senses and responds to gamma oscillations is unknown."

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Still, the potential benefits are great. Tsai's team has just begun assessing their strobe-light method on patients, and they're sure to be joined by others as more researchers learn of this promising work... Just as new species spring up at the boundaries between ecosystems, new science can flourish at the interface between disciplines.

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