



NeuGlow

Powered by Delta M+ Technology





NeuGlow ———

Illuminate Wisdom

Market Background

Every 3 seconds, someone in the world develops dementia.

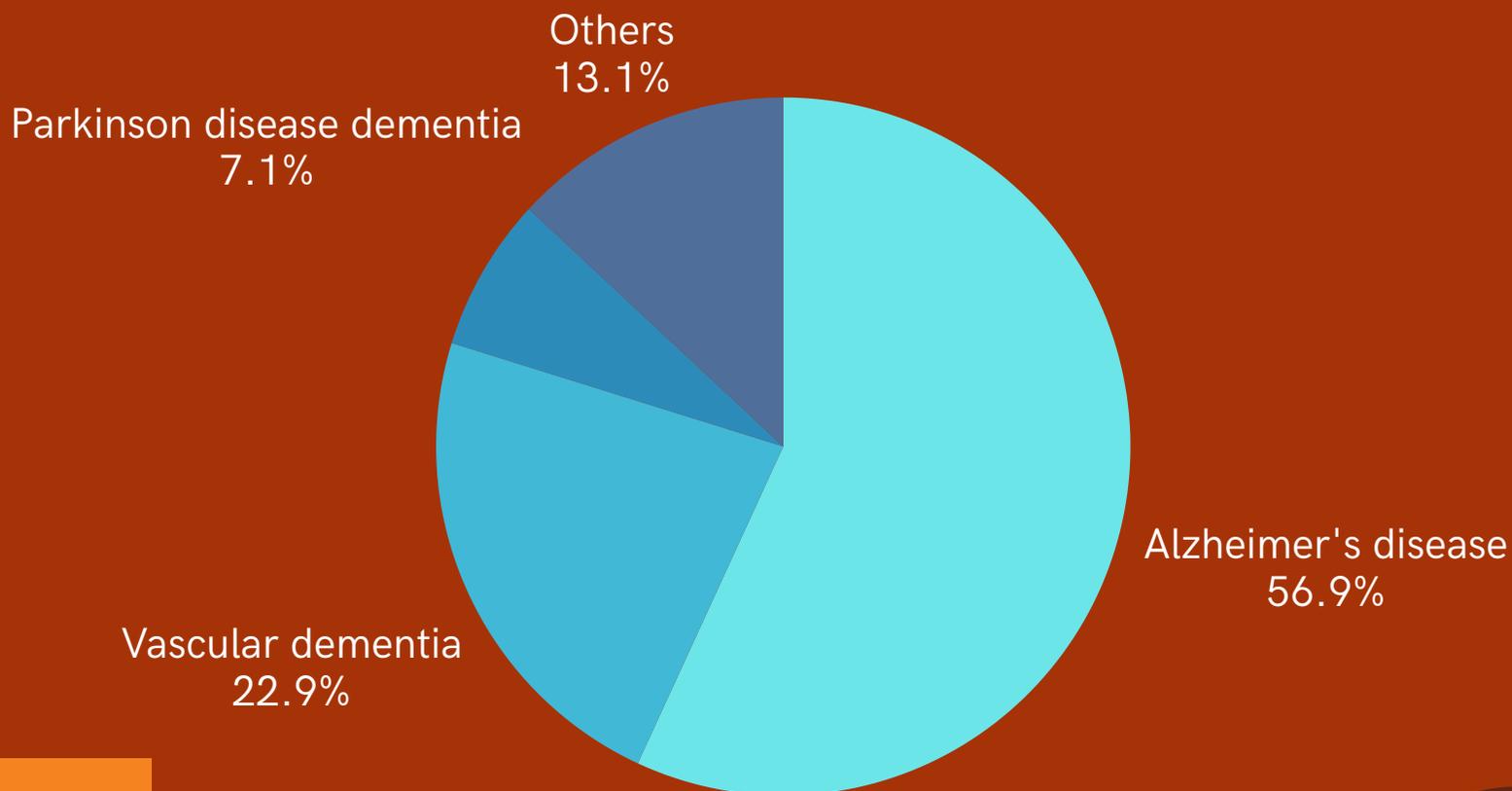
According to the World Health Organization (WHO):

- As of 2021, there were **57 million** people living with dementia worldwide.
- Nearly **10 million** new cases are reported each year.
- By 2050, the number is projected to reach **152 million**.



Market Background

According to the Ministry of Health and Welfare, Taiwan





Challenges

There is currently no cure for dementia

Medications can only slow progression or relieve symptoms

Families face long-term caregiving burdens and emotional stress

Patients gradually lose memory, language, and independence

The social and healthcare costs are rising rapidly

Dementia patients require long-term medical care, caregiving, and medication support

The Hope 40Hz

Professor Li-Huei Tsai of MIT proposed the 40Hz auditory-visual stimulation therapy

This research offers the medical community a new breakthrough against dementia.





2016

In December 2016, the research team published a paper in Nature titled “Gamma frequency entrainment attenuates amyloid load and modifies microglia,” which revealed that 40Hz flickering light could stimulate gamma oscillations in the brains of Alzheimer’s disease model mice, reduce β -amyloid deposition, and improve microglial function.





2021

In 2021, at the International Conference on Alzheimer's and Parkinson's Diseases (2021 AD/PD), the results of a Phase II clinical trial were announced, showing that the decline in patients' memory and cognitive scores was reduced by 83%, and brain atrophy was decreased by 61%. The study enrolled 76 patients over the age of 50 with mild to moderate Alzheimer's disease. During the 6-month treatment period, participants were randomly assigned to receive one hour of daily 40Hz visual and auditory stimulation at home.



Research Highlights on 40Hz Applications



“Therapeutic Effects of 40 Hz Light Therapy on Patients with Insomnia”

Chen et al. (2021), in a study published in *Sleep Medicine*, reported that 40 Hz light therapy can improve sleep quality and duration in patients with insomnia, while also reducing daytime fatigue and psychological stress.



“The Therapeutic Effects of 40 Hz Light Therapy on Patients with Alzheimer’s Disease”

Wang et al. (2020), in a study published in the *Journal of Alzheimer’s Disease*, reported that 40 Hz light therapy can improve cognitive and memory functions in patients with Alzheimer’s disease, while also reducing cognitive decline and behavioral abnormalities.



“The Therapeutic Effects of 40 Hz Light Therapy on Patients with Depression”

Sun et al., 2021, published in *Translational Psychiatry*, reported that 40 Hz light therapy can improve the emotional state and cognitive function of patients with depression, while also reducing their anxiety and depressive symptoms.

Research Highlights on 40Hz Applications



“The Therapeutic Effects of 40 Hz Light Therapy on Parkinson’s Disease Patients” Baltus et al. (2021), published in *Frontiers in Human Neuroscience*, reported that 40 Hz light therapy can alleviate motor and cognitive impairments in patients with Parkinson’s disease and may promote neuronal regeneration in the brain.



“Therapeutic Effects of 40 Hz Light Therapy on Children with Autism Spectrum Disorder” Ghaffarzadeh et al. (2021), in a study published in the *Journal of Autism and Developmental Disorders*, reported that 40 Hz light therapy can improve social interaction skills and cognitive abilities in children with autism spectrum disorder, while also reducing behavioral abnormalities and maladaptive behaviors.



“Therapeutic Effects of 40 Hz Light Therapy on Patients with Attention-Deficit/Hyperactivity Disorder (ADHD)” Chang et al. (2017), in a study published in *Clinical Neuroscience*, reported that 40 Hz light therapy can enhance focus and attention in patients with ADHD.



Why Has 40 Hz Light Therapy Not Yet Become Widespread?

The flickering of 40 Hz light creates barriers to use.

- Some individuals may experience headaches and eye fatigue.
- Photosensitive individuals (such as epilepsy patients) may face triggering risks.
- The long-term effects of prolonged use remain unclear.

**Due to discomfort from flickering, most competing 40 Hz devices are designed specifically for patients.



Delta M+ Technology

Patent for Masking Visible 40Hz Flicker

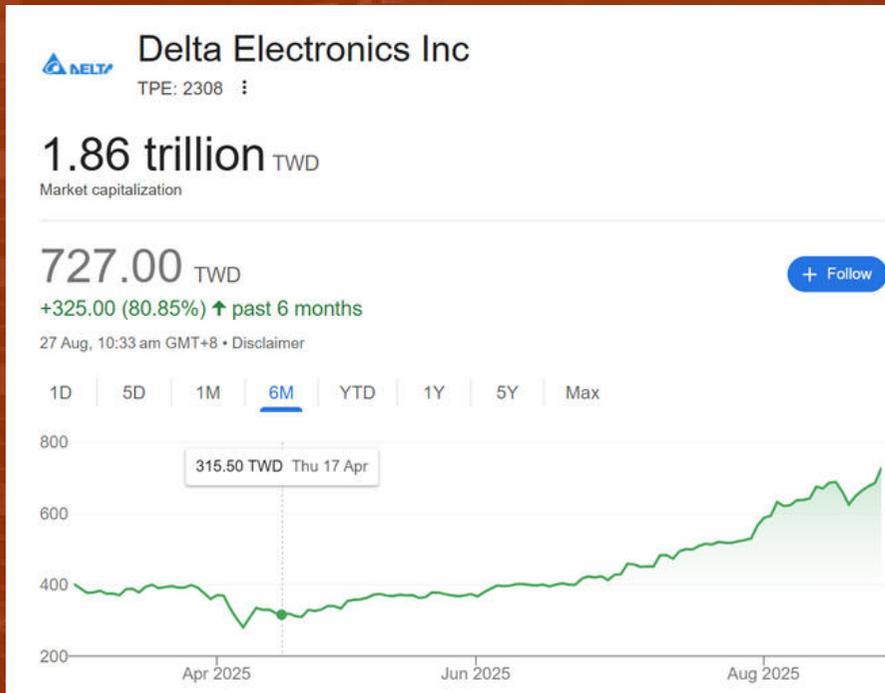
- Delta's patented M+ multi-frequency Gamma light technology embeds 40 Hz oscillations within normal lighting to create a "BrainCare Light."
- This technique eliminates detectable flicker, allowing users to receive 40 Hz stimulation while enjoying comfortable, flicker-free illumination.
- M+ technology transforms everyday lighting into a cognitive wellness solution, seamlessly merging brain health with daily illumination.



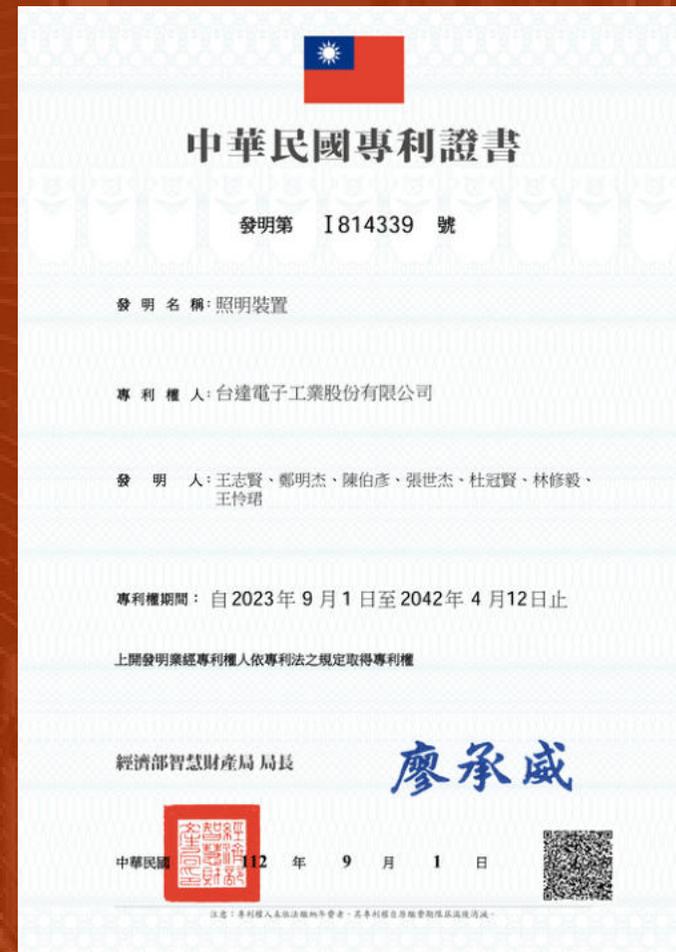


Backgrounds of Delta

M+技术专利证书



Full Company Name: Delta Electronics, Inc.
 Stock Code: 2308.TW
 Employees: Over 83,000
 As of 27 August, 2025, Delta's market capitalization is approximately NT\$1.86 trillion.

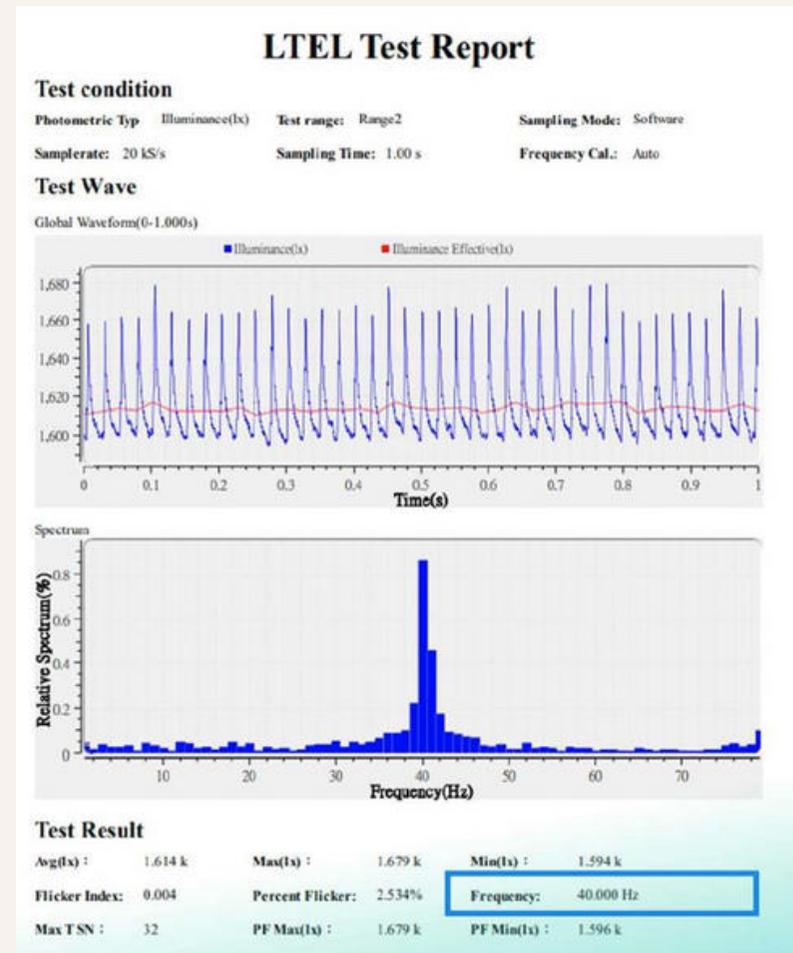


M+ 40Hz Light Frequency Testing

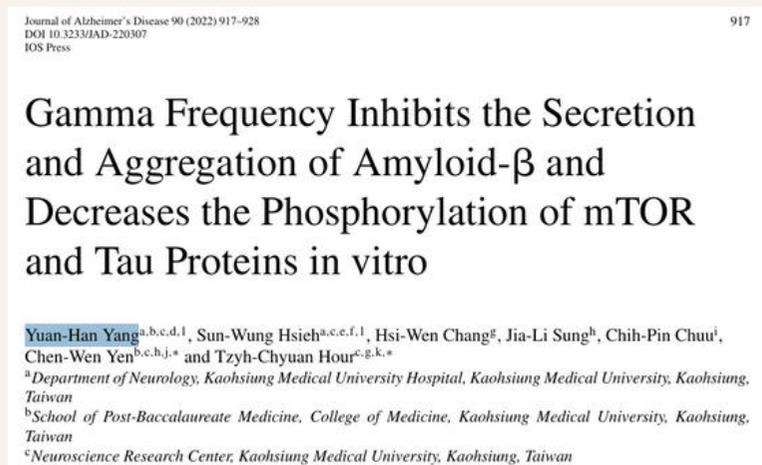
The output light was tested using the **LFA-3000 Light Flicker Analyzer**, and the results confirmed a 40 Hz light frequency.



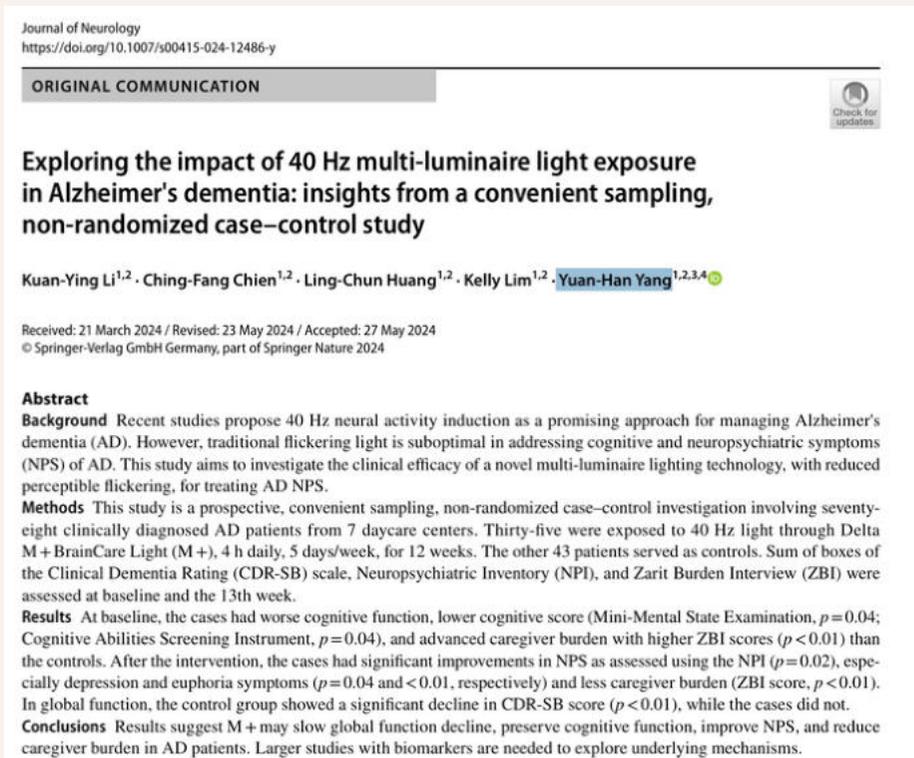
40 Hz Flicker Test Results



Clinical Trial on M+ 40Hz

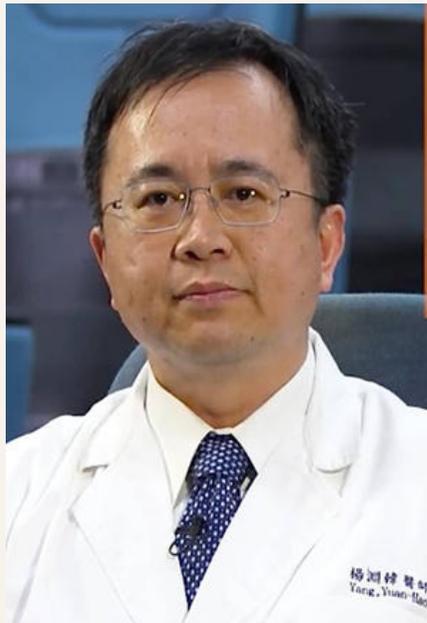


Gamma Frequency Inhibits the Secretion and Aggregation of Amyloid- β and Decreases the Phosphorylation of mTOR and Tau Proteins in vitro



Exploring the impact of 40 Hz multi-luminaire light exposure in Alzheimer's dementia: insights from a convenient sampling, non-randomized case-control study

Clinical Trial on M+ 40Hz



**Professor
Yuan-Han Yang,
M.D., Ph.D.**

- Convener, Dementia Research Group, National Health Research Institutes, Center for Gerontology and Geriatrics
- Distinguished Research Fellow, Industrial Technology Research Institute (ITRI)
- Director, Neuroscience Research Center, Kaohsiung Medical University
- Professor, Department of Medicine, Kaohsiung Medical University
- Joint Appointment Professor, Institute of Medical Science and Technology, National Sun Yat-sen University

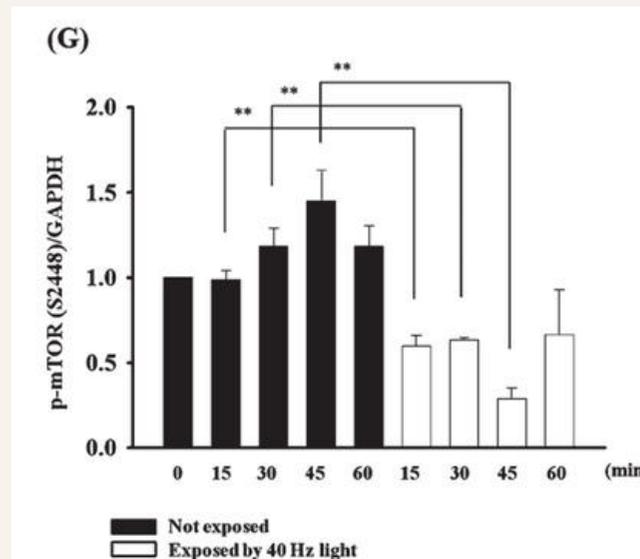
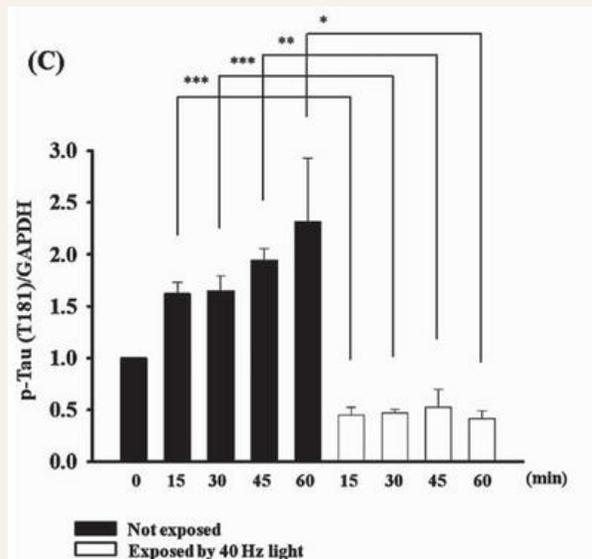
Education & Professional Background:

- M.D., School of Medicine, Kaohsiung Medical University
- M.S., Graduate Institute of Behavioral Sciences, Kaohsiung Medical University
- Ph.D., Graduate Institute of Medicine, Kaohsiung Medical University
- Research Scholar, Alzheimer's Disease Research Center, Washington University in St. Louis, USA
- Director, Neuroscience Research Center, Kaohsiung Medical University
- Vice Superintendent, Director of Neurology, and Director of Memory and Aging Center, Kaohsiung Municipal Ta-Tung Hospital
- Chair, Research Committee, Asian Society Against Dementia (ASAD)
- Executive Director, Asian Society Against Dementia (ASAD)
- President, Taiwan Alzheimer's Disease Association (TADA)
- President, Taiwan Asia-Pacific Care Association for the Aged
- President, Kaohsiung Alzheimer's Disease Association
- Associate Editor-in-Chief, Brain Science Advances

Honors & Achievements:

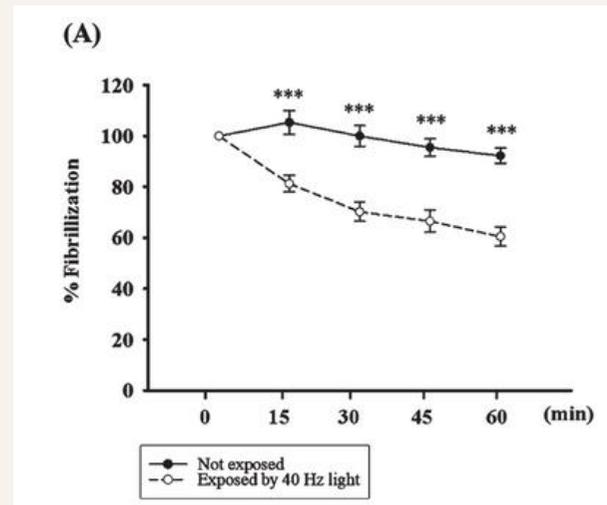
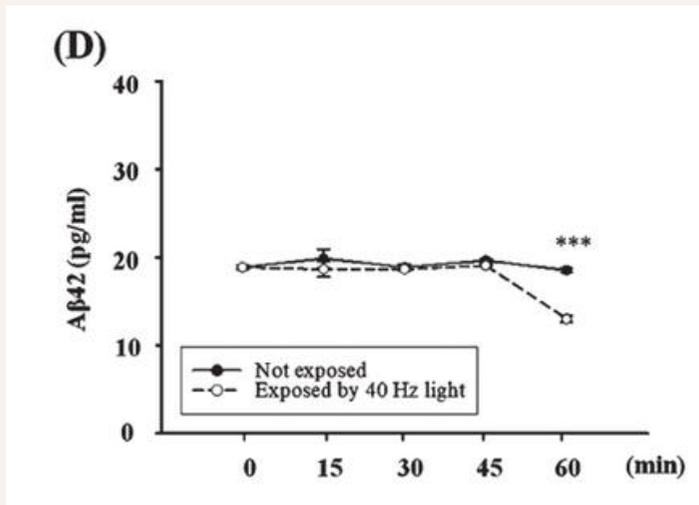
- Marquis Who's Who in the World, 2014, 2015, 2019
- Albert Nelson Marquis Lifetime Achievement Award, 2017-2019
- Developer of the AD8 Dementia Screening Interview, now widely adopted across Asia and Taiwan
- Established the Chinese-language standardized assessment for the Clinical Dementia Rating (CDR) scale
- Founder of the Dementia Registry Program, which has been implemented across Asia and internationally, including in Japan, Korea, Hong Kong, the Philippines, Thailand, Singapore, Indonesia, Shanghai, Beijing, Tianjin, Guangzhou, and Nanjing
- Author of over 200 scientific papers and 4 monographs on dementia
- Director, Fo Guang Shan Compassion Foundation Dementia Care Center, and President, Taiwan Alzheimer's Disease Association — organized and delivered over 100 global public lectures on dementia awareness and care

M+ 40Hz Experimental Results



From the experimental results, it was observed that cells exposed to the M+ 40 Hz light source showed a significant reduction in the expression levels of **Tau protein** and **mTOR protein**, indicating that this light source can inhibit their phosphorylation. The accumulation of Tau protein and mTOR protein is considered one of the main causes of dementia.

M+ 40Hz Experimental Results



The M+ light source effectively reduces the secretion and aggregation of A β 42. In the pathological mechanism of dementia, the secretion of amyloid protein A β 42 increases, and after secretion, these proteins aggregate. Once aggregated, they deposit in the brain and cause pathological changes. Therefore, reducing the secretion and aggregation of A β 42 is beneficial for patients with dementia.

M+ 40Hz

Experimental Results

Results At baseline, the cases had worse cognitive function, lower cognitive score (Mini-Mental State Examination, $p=0.04$; Cognitive Abilities Screening Instrument, $p=0.04$), and advanced caregiver burden with higher ZBI scores ($p<0.01$) than the controls. After the intervention, the cases had significant improvements in NPS as assessed using the NPI ($p=0.02$), especially depression and euphoria symptoms ($p=0.04$ and <0.01 , respectively) and less caregiver burden (ZBI score, $p<0.01$). In global function, the control group showed a significant decline in CDR-SB score ($p<0.01$), while the cases did not.

Conclusions Results suggest M+ may slow global function decline, preserve cognitive function, improve NPS, and reduce caregiver burden in AD patients. Larger studies with biomarkers are needed to explore underlying mechanisms.

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NeuGlow 40Hz Lamp

Powered by M+ Technology

NeuGlow



NeuGlow Mechanism of Action

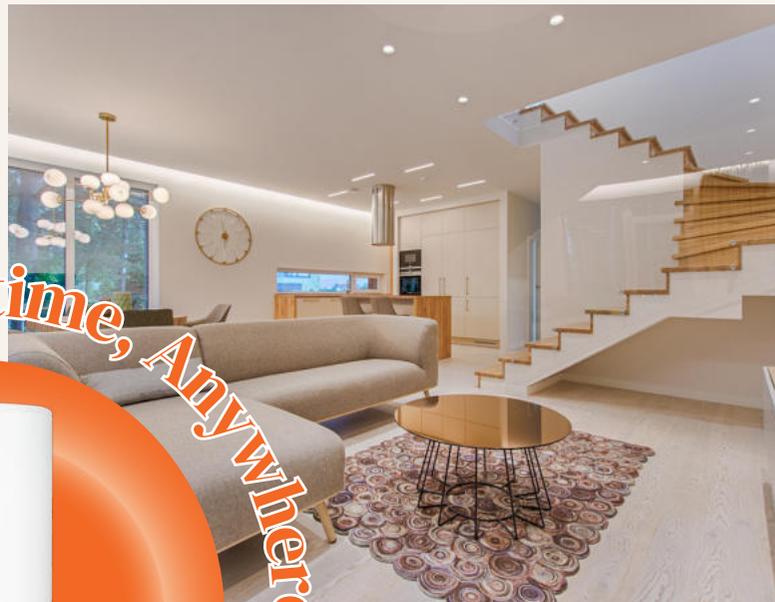


NeuGlow's 40Hz light stimulation works by entraining the brain's gamma oscillations (~40Hz).

Gamma waves are strongly associated with attention, memory, learning, and cognitive processing. Research shows that when neuronal networks synchronize at 40Hz, it can:

1. **Promote neuronal synchronization** - Strengthen connections between neurons and enhance brain network coordination.
2. **Reduce amyloid-beta (A β) aggregation** - Animal studies indicate that 40Hz light stimulation decreases harmful protein deposits linked to Alzheimer's disease.
3. **Enhance cerebral blood flow and metabolism** - Improve energy supply to brain cells and support neuroprotection.
4. **Improve cognitive function** - Preclinical and early human studies suggest better memory and cognitive performance.

In short, 40Hz light stimulation is a non-invasive neuromodulation method. By driving visual stimulation to align brain rhythms with healthy gamma frequencies, it may provide neuroprotective and cognitive-enhancing effects.



Brain Care, Anytime, Anywhere



Only 1 hour per day



Specification

Light Source	LED
Frequency	40Hz
Mode 1	M+Technology Non-Flickering
Mode 2	Flickering
Brightness	150 Lumens
Light Appearance	4000K (Neutral White Light)
Energy Used	1.5 watts
Socket Type	Type C



Key Features



40Hz



Portable/User- Friendly



Extra-long
Durability



Flicker-free



Non-Invasive



Patented
Technology



Clinically Tested



One Year Warranty





Together, Illuminate a Smarter Future

NeuGlow

