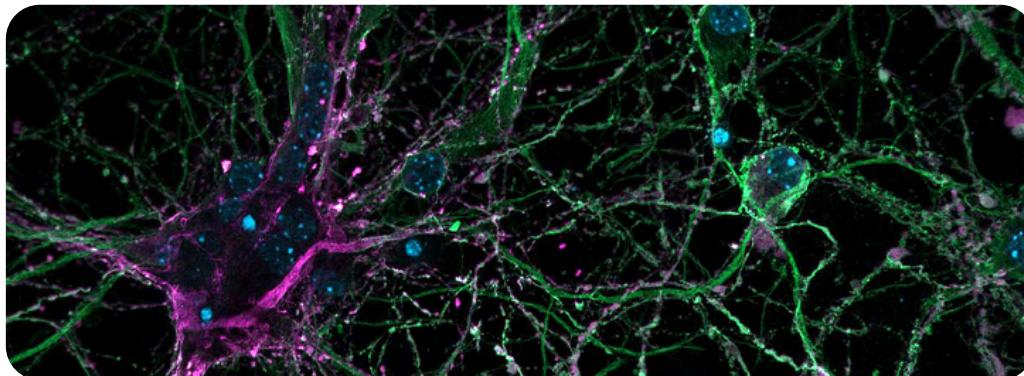


# Vielight News

Accelerating photobiomodulation.



## GROUNDBREAKING SPECTROSCOPY STUDY WITH VIELIGHT

This new [groundbreaking study](#) with Vielight technology by Dr. Jack Tuszyński et al. explores the effects of NIR energy on tubulin.

Healthy cellular function and structure are intrinsically linked to the integrity of tubulins. Tubulins are proteins found in all eukaryotic cells and play a critical role in their structure and function. Eukaryotic cells typically contain 3–4% tubulin. Notably, however, mammalian brain tissue is particularly rich in tubulin content, consisting of 10% or more of the total protein content.

Tubulin, crucial in Alzheimer's pathology, was studied for PBM's effects using Raman spectroscopy. Tubulin samples exposed to pulsed NIR radiation with Vielight LED technology (810 nm, 10 Hz, 22.5 J/cm<sup>2</sup>) revealed significant changes in protein structures.

Using this validated imaging method, statistically significant alterations in the secondary structures of polymerized NIR-exposed tubulin were observed, characterized by a notable decrease in  $\alpha$ -helix content and a concurrent increase in  $\beta$ -sheets compared to the control samples.

This newly discovered mechanism could have implications for reducing the risks associated with brain aging, including neurodegenerative diseases like Alzheimer's disease, through the introduction of an intervention following this transition, and potential for brain aging intervention.

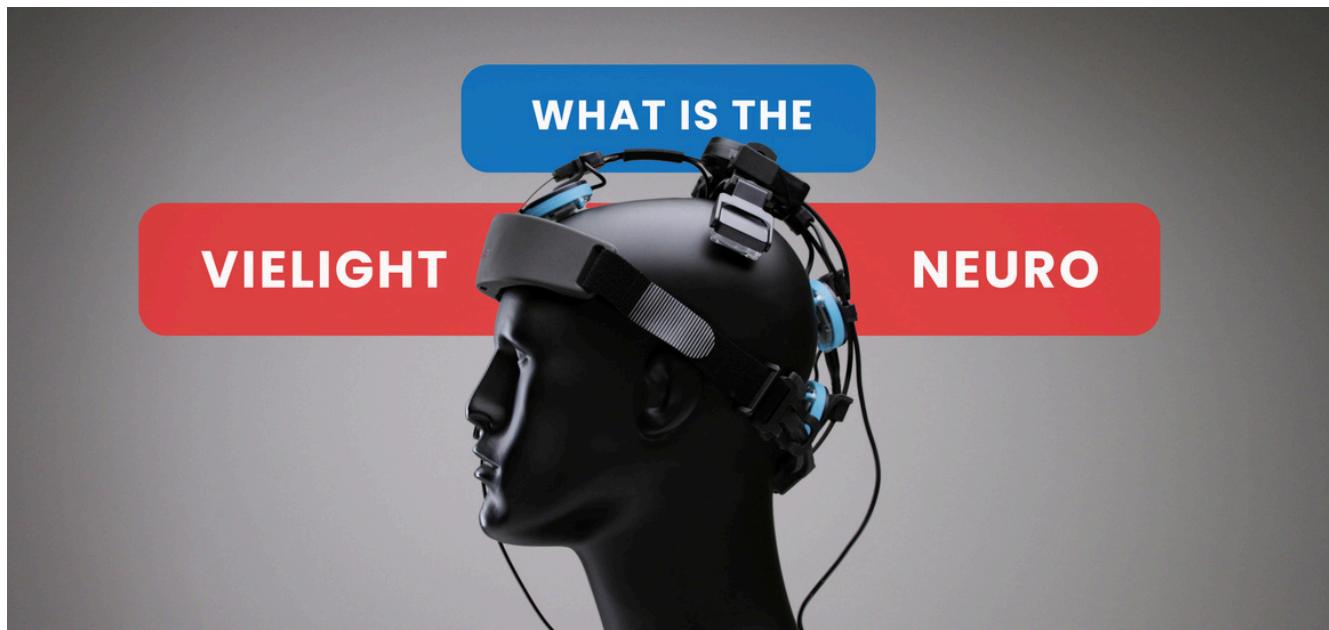
## Newsletter Highlights

### New Spectroscopy Study with Vielight

### Neuro 4 Video

### PBM is Parameter Specific

 **VIELIGHT**



## WHAT IS THE VIELIGHT NEURO?

A quick explainer about the groundbreaking Vielight Neuro 4 and why it's the most effective brain photobiomodulation device, featured in the most published studies ranging from neurodegeneration to cognitive performance and creativity.

We would like to thank our research partners, without which, validating the science and development of our Neuro, would have taken significantly longer.

Watch the full video here: [Link](#)

### PBM RESULTS ARE PARAMETER SPECIFIC

Photobiomodulation is dependent on the correct wavelength (nm), irradiance ( $\text{mw/cm}^2$ ) and location.

Declared wavelengths and irradiance values can vary greatly between devices because of LED technology used, form factor and methods of measurement.

Be cautious of companies attributing research conducted with other devices as attainable to their own. Not all forms of light energy are the same.

