VielightNEWS

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"Where there is purpose, there is hope." George Washington Carver

Intranasal PBM full-body effects and free-floating mitochondria in the blood.

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New Study Explains Vielight's intranasal PBM effects

Platelets release mitochondria to various parts of the body

Dr. Lew Lim to speak at the Brain Degeneration Summit

New Study Explains Vielight's Full-Body Internal Effects from Intranasal Photobiomodulation.

We have often been asked how light shining from a Vielight intranasal device into the nose is able to affect the whole body. This concept could seem unbelievable to the uninitiated. However, those who have used the Vielight red light intranasal devices recognize (and have reported) these full-body effects. Many users experienced positive changes in remote parts of their body, which are attributed to the intranasal light treatment.

We have consistently observed the same phenomenon in our experience with intranasal photobiomodulation (PBM), consistent with literature on PBM research. Several terms have been used to express this effect. For example, one of the terms, "abscopal effects," is commonly used in cancer therapy. Thus, cancer-fighting drugs applied at one part of the body affect other, remote parts of the body. Other terms describing this phenomenon include "remote PBM" and "circulating factors". However, these terms are largely viewed as inadequate. Hypothetical explanations have covered the actions of stem cells, platelets, vasodilation, purinergic signaling - each hypothesis having its own merits.

Traditional explanation usually starts with the fundamental mechanism, that is, the action of the mitochondria. Except for red blood cells, mitochondria are found in all cells in the human body. They are the powerhouses of those cells. Mitochondria absorb nutrients from our food and, in a series of biochemical reactions, produce energy-rich molecules. Consequently, these molecules are used to fuel all processes in our bodies.

What is of great interest to PBM, and largely unnoticed in conventional biology, is the ability of the mitochondria to absorb red and near infrared (NIR) light to improve body and brain functions. However, for PBM to take effect, the light in the red and NIR spectra must reach the mitochondria. When that happens, they turn on the gene activating proteins and release nitric oxide to relax blood vessel walls, which also improves blood circulation.

Mitochondria have been commonly recognized as embedded inside eukaryotic cells, which are the most common type of human cells. That is now found to be NOT true. French scientists recently showed that numerous free-floating mitochondria are present in the blood circulatory system. They are not all embedded in our cells. This also means we can now potentially deliver therapeutic lights to mitochondria simply by lighting up the blood.

Furthermore, these free-floating mitochondria are considered "respiratory-competent" or ready for activation via PBM. Importantly, the effect of PBM can spread throughout the body via the circulatory system. Consequently, the effect becomes systemic. This means that it can reach regions that are remote from the point of irradiation and deliver whole-body, systemic effects.

A Canadian study has found that platelets release these mitochondria to various parts of the body. Platelets, responsible for blood clotting, are mitochondria-rich cells present in the blood. The mitochondria of these cells can also be activated in the same way as in other eukaryotic cells when they are exposed to red or NIR light. The resulting respiratory-competent, energy-producing mitochondria could be released and be attributable for numerous free-floating or extracellular mitochondria in the blood system.

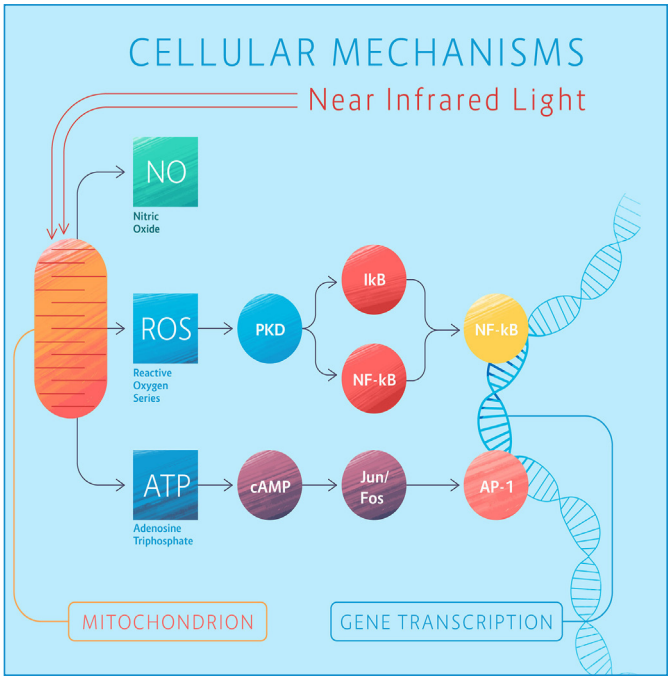
In summary, the presence of free-floating mitochondria in the blood is a credible explanation for the systemic effect of PBM when the blood is irradiated with red and NIR light. The Vielight intranasal devices, particularly the ones with the visible red light applicators, irradiate the blood and induce the systemic effect. The presence and activity of free-floating mitochondria help to explain why we experience systemic whole-body effects of PBM with the Vielight intranasal devices.

The above content was contributed by Dr. Lew Lim, PhD., Founder & CEO of Vielight.

Vielight to Participate in AAPB 2020

Biofeedback and neurofeedback researchers and practitioners will be gathering for their annual event at AAPB 2020 in La Jolla, California on April 1-4, 2020. Dr. Lew Lim is scheduled to deliver an oral presentation entitled, "Photobiomodulation as Adjunct Intervention for Neurofeedback".

According to Dr. Lim, "Based on what we have learned over the last few years, we feel that neurofeedback practitioners are missing a lot, if they do not have an understanding of photobiomodulation (PBM). It is a safe and easy intervention that can potentially improve the outcomes significantly. I hope to help with the education with this presentation. In addition, Vielight will also have a booth to showcase the various ways to apply PBM."



Last, but not least, a Vielight scientist, Dr. Mahta Karimpoor, will showcase the capabilities of the Vielight Neuro Pro device. Representing the next step in Vielight's transcranial PBM (tPBM) technology, this new device is expected to be ready for production by the end of 2020.

Dr. Lew Lim to speak at the online Brain Degeneration Summit

Take this opportunity to learn about the Brain Degeneration Summit without physically attending a conference. It is an online summit held between April 6-12, 2020. A group of 33 knowledge leaders are expected to deliver education-rich material focused on support of brain health, and based on natural medicine.

Dr. Lew Lim of Vielight will be presenting his perspective on the use of transcranial photobiomodulation (tPBM), and its relevance to brain degeneration. Dr. Lim will cover the rationale for using tPBM in mitigating the effects of Alzheimer's Disease, among other applications. His presentation is entitled "Light Therapy for Brain Degeneration". More information and registration details can be found on Brain Degeneration Summit website by following this link.

Zara Abbaspour, MD, Joins Vielight as a Research Physician

Dr. Zara Abbaspour adds further to the deep multi-disciplinary research talent pool of Vielight. She will provide her knowledge and experience as a research medical doctor. She is a board-certified practicing family physician in Iran and served in Germany, prior to her relocation to Canada. She brings specialized experience in psychosomatic and gastrointestinal medicines, as well as emergency medicine. She has been involved in the applications of EEG at the Centre for Addiction and Mental Health (CAMH) in Toronto, researching mood and anxiety disorders, and addiction.

Stacey Phelan Joins Vielight's Customer Service

Vielight continues to prioritize effective customer service. It is a challenging area in view of responding to the information needs of customers by providing evidence-based support without overstating the therapeutic values of the Vielight technology. Originally from the Republic of Ireland, Stacey now resides in Toronto. She holds a Bachelor of Arts in Politics and Public Administration.