

What is Photobiomodulation (PBM)?

Photobiomodulation is a form of low level light therapy. The brain can be stimulated by electricity (tACS/tDCS/tRNS), magnetic fields (pEMF), and light (PBM). Photons (units of light) are at their essence an electromagnetic wave.

Light energy can be absorbed by the mitochondria (the power generators of the cell) in the neurons. The light stimulates specific enzymes which increases the production of ATP (fuel for the cell). It also sets off a chain reaction of events which causes protection and repair chemicals to be made in the brain. Nitric Oxide is released, which is an important Neurotransmitter. Nitric Oxide also helps dilate blood vessels and improve circulation.

The device is designed so that light of a specific wavelength enters the brain. It is engineered so that the photons travel deep into the brain, and give the correct amount of energy to their targets. This is why light with wavelength of 810 nanometers is delivered.