

December 2020

*LIGHT THERAPY*

*Biological reaction to light is nothing new, there are numerous examples of light photochemical reactions in biological systems. Vitamin D synthesis in our skin is an example of a chemical reaction. When ultraviolet B (UVB) rays strike our skin, it converts a universally present form of cholesterol into Vitamin D3.*

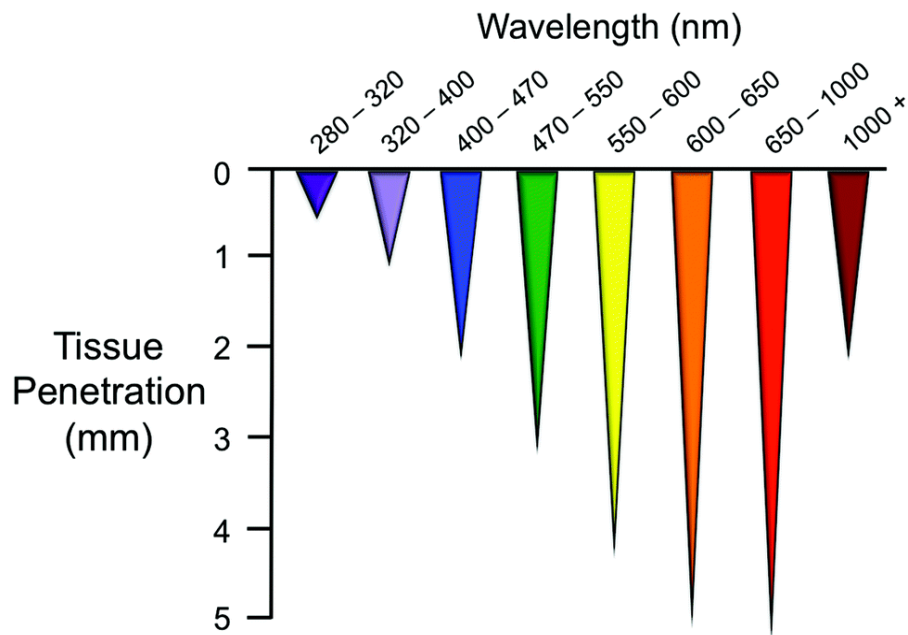


Fig 1. Penetration depth of each colour of light and different wavelengths into skin tissue

**WHAT ARE THE BENEFITS OF LIGHT THERAPY**

The biological effect varies with the wavelength and depth penetration of the photon (*light*) colour which is absorbed by molecules in the skin, i.e. DNA, and protein.

**This type of therapy is known by many different names:  
Chromo-Therapy, LED Light Therapy, Photo Therapy, Photo Rejuvenation.**

## THE BENEFITS OF INCLUDING LIGHT THERAPY IN YOUR TREATMENTS.

**PHOTO-BIOMODULATION** therapy is defined as the utilization of non-ionizing electromagnetic energy to trigger photochemical changes within cellular structures that are receptive to photons (*light radiation*).

Mitochondria is particularly receptive to this process. At the cellular level, visible red and near infrared light (NIR) energy are absorbed by mitochondria, which perform the function of producing cellular energy called Adenosine triphosphate “ATP” (*shown below on the left of fig2.*)

The key to this entire process is a mitochondrial enzyme called cytochrome oxidase c, a chromophore, which accepts photonic energy of specific wavelengths, when functioning below average.

When cells can't produce ATP, they die. It is the energy that allows the cell to take in nutrients, release toxins and reproduce new cells.

ATP energy is present in all living tissue and provides energy for all physiological processes, e.g. muscular contraction.

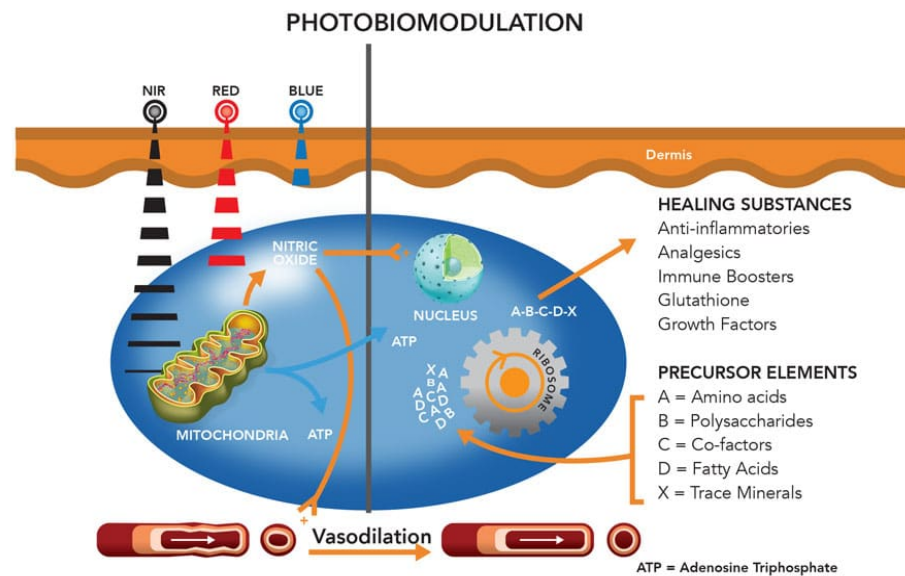


Fig2. The right side the diagram shows the effects of the colour of the light on the cell's Nucleus. On the right, A-B-C-D-X, are the Healing Substances and the Precursor Elements that are formed as a result of this action, and the production of ATP.

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