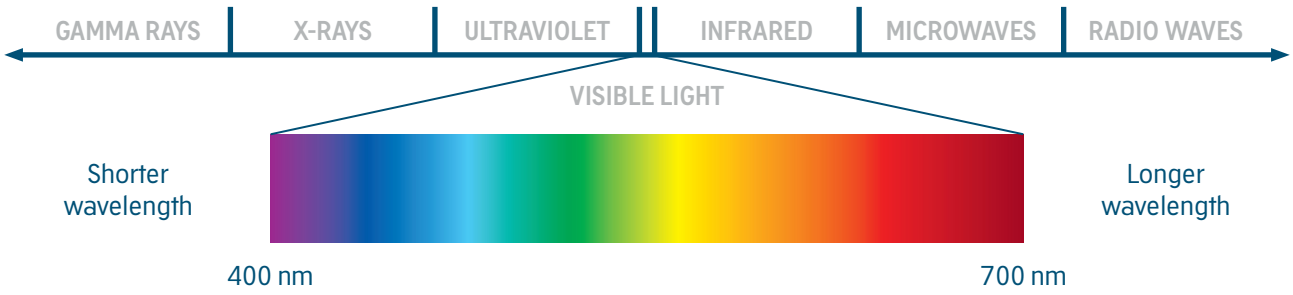
The mode of action of Kleresca®, a novel biophotonic technology

The difference is in the fluorescence

Kleresca®'s mode of action is unique in the field of dermatology as it uses fluorescent light energy to stimulate the skin's own repair mechanisms.

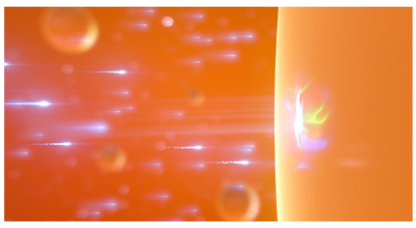
The technology is based on the principle of photobiomodulation (PBM). This refers to the use of light to change (modulate) cell activity in the skin resulting in many beneficial effects. No UV light is involved, and it is a non-invasive treatment[2,6].



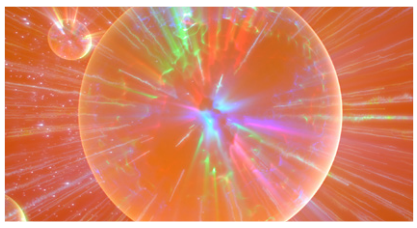
The benefits of light for our skin have been known since the early 18th century[1]. Our skin is the largest organ by body mass in our bodies and the most exposed to sunlight.

Inspired by photosynthesis

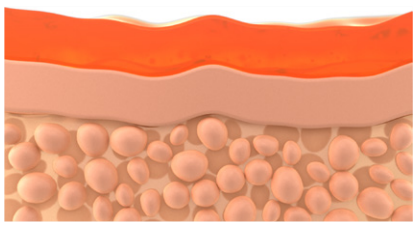
A special photoconverter gel and multi-LED lamp are needed[12] in order to do the treatment. The photoconverter gel is applied to the patient's skin and the lamp is shone on the skin. Chromophores in the gel convert the blue light from the lamp (415 nm and 447 nm) into pulsing fluorescent energy (green 520 nm to orange–red 630 nm), which can penetrate deeper into the skin[10]. The combination of the blue light (which penetrates the epidermis) emitted and the fluorescent light generated (which penetrates the upper and lower dermis) stimulates the skin's own repair mechanisms and results in visible and lasting improvements in the skin[4,5,8,9] .



The photoconverter gel absorbs blue light from Kleresca® Light



The chromophores convert this into dynamic fluorescent light energy

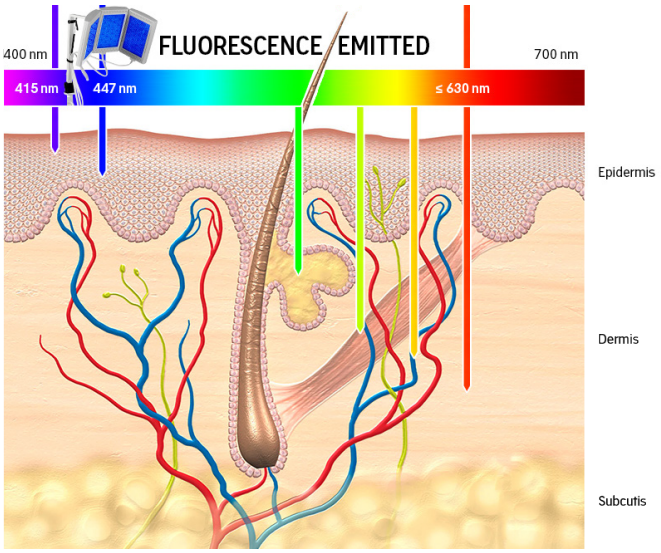


Photobiomodulation is initiated, stimulating the skin at the cellular level

Benefits of photobiomodulation

Kleresca® uses PBM to stimulate the skin cells' own natural repair mechanisms to treat different skin disorders such as acne, skin rejuvenation and rosacea[4,5,8,9].

Light of different wavelengths (and colours) penetrate the skin at different levels and have different effects[2,6]. Blue light only penetrates the epidermis (and kills *P. acnes*, the bacteria responsible for acne), green light penetrates the upper part of the dermis, and orange and red light penetrate lower down in the dermis. The benefits of green and orange-red light penetration are reduced inflammation, an increase in the build-up of collagen, and normalised cellular activity[11].



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