

SOLAR SPECTRUM

UVB

Stimulates the production of vitamin D, beta-endorphins, and serotonin
Improves diversity of the gut and skin microbiome
Vitamin D made in the skin protects skin cells from UV damage, helps prevent cell death, protects from melanoma.
Upregulates period and clock genes in cells.

UVA

Stimulates the release of nitric oxide in the skin cells, and stimulates an enzyme to make more nitric oxide. Affects immune system and immune tolerance. Improves diversity of the skin microbiome.

INFRARED

Makes up the majority of the energy from sunlight, stimulates the heat receptors in the skin and penetrates deep into the body, even through clothing, perceived as warmth

ULTRAVIOLET

VISIBLE LIGHT

INFRARED



BLUE LIGHT

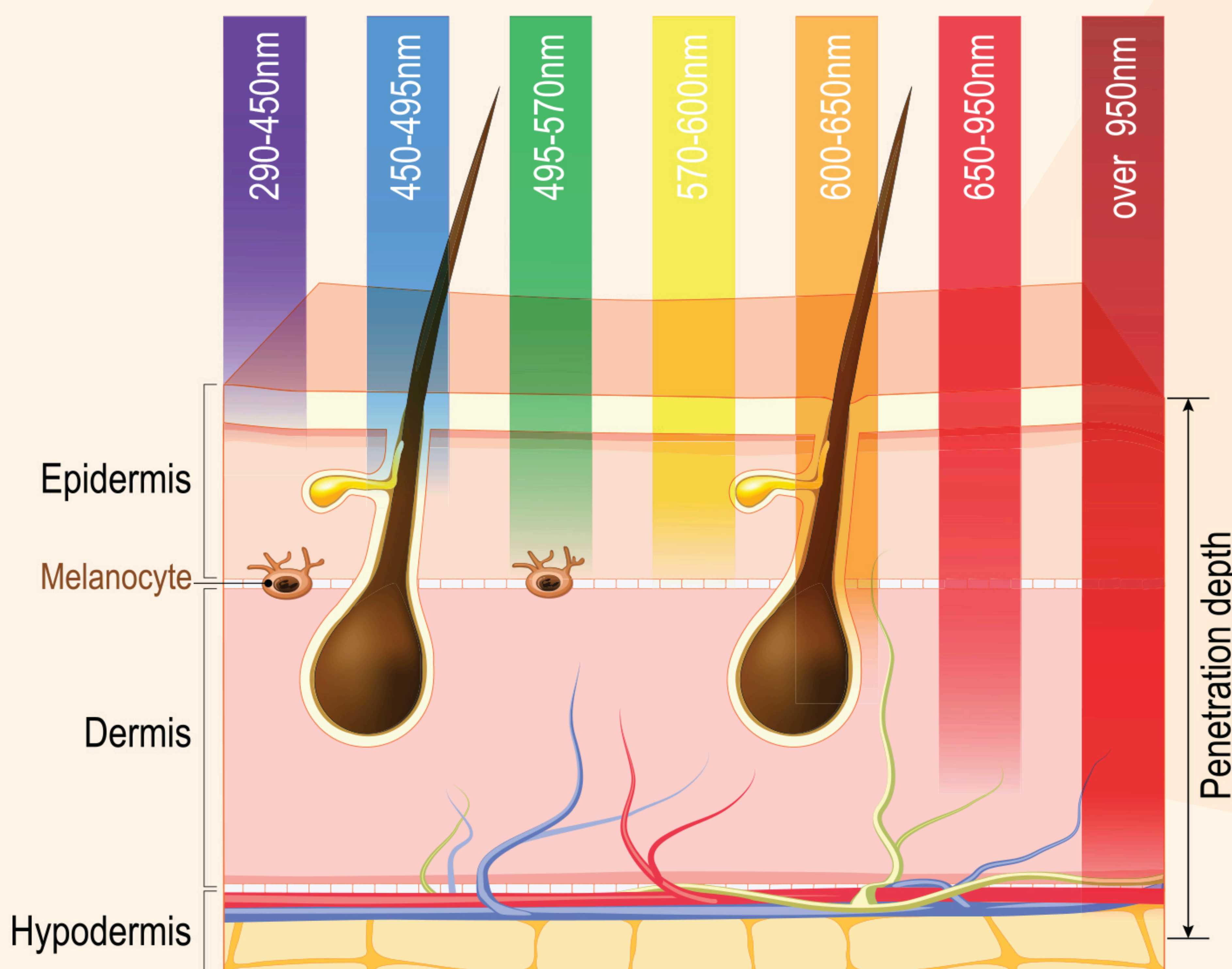
Strongest effect on the regulation of the circadian rhythm, suppresses secretion of melatonin from the pineal gland, reduces depression, increases circulating beta endorphins, decreases systolic blood pressure, antibacterial effect.

RED AND NEAR-IR

Melatonin production in the mitochondria with a strong antioxidant effect has a positive association with improved vitamin D and magnesium levels in the blood.

FAR INFRARED RADIATION

Blood pressure regulation, improved depressive symptoms, endothelial function, microcirculation, the formation of new blood vessels, wound healing, and increased flow-mediated dilation of the blood vessels, warmth. Stimulates fibroblast activity, collagen synthesis.



PENETRATION DEPTH

UVB (295-319 nm, within the purple bar) is very shallow, only penetrates the very surface of the skin. Infrared (red) gets deep into the tissues and cells, into the mitochondria, penetrates through clothing, bone, and into the brain and cerebrospinal fluid.

