Mechanisms of action for light therapy: a review of molecular interactions

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Abstract

Five decades after the first documented use of a laser for wound healing, research in light therapy has yet to elucidate the underlying biochemical pathways causing its effects. The aim of this review is to summarize the current research into the biochemical mechanisms of light therapy in order to better direct future studies. The implication of cytochrome c oxidase as the photoacceptor modulating light therapy is reviewed, as are the predominant hypotheses of the biochemical pathways involved in the stimulation of wound healing, cellular proliferation, production of transcription factors and other reported stimulatory effects.