

The effects of red/infrared light treatment on the total protein concentration in lymphocytes

The effectiveness of red light therapy (RLT) on cellular activity is important in determining if its usage is suitable for the treatment of various health conditions.

In order to better understand the molecular and metabolic mechanisms related to RLT, our preliminary study of the effect of LED light sources 660 nm and 850 nm on the proliferation of human lymphocyte cells was further extended to analyze its effect on the synthesis of cellular enzymes.

Using the Bradford method, the total concentration of proteins in lymphocytes was monitored for different time parameters and conditions of exposure and in relation to the untreated (non-irradiated) control cells.

Our results show a higher protein concentration for all irradiated samples when compared to the unirradiated samples and it was especially increased for multiple exposures to red/infrared light.

Since the used method cannot answer whether the increased protein concentration has positive or negative connotations, it is important to continue the research and include additional methods that test oxidative stress and the structure of chromosomes on a larger number of samples in order to gain additional understanding of the beneficial impact of RLT on lymphocyte cells.

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