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Laser Research Group, Faculty of Health Science, University of Johannesburg, Doornfontein, Johannesburg, 2028, South Africa.

The study investigated the effects of low-level laser radiation and epidermal growth factor (EGF) on adult adipose-derived stem cells (ADSCs) isolated from human adipose tissue. Isolated cells were cultured to semi-confluence, and the monolayers of ADSCs were exposed to low-level laser at 5 J/cm² using 636 nm diode laser. Cell viability and proliferation were monitored using adenosine triphosphate (ATP) luminescence and optical density at 0 h, 24 h and 48 h after irradiation. Application of low-level laser irradiation at 5 J/cm² on human ADSCs cultured with EGF increased the viability and proliferation of these cells. The results indicate that low-level laser irradiation in combination with EGF enhances the proliferation and maintenance of ADSCs in vitro.

PMID: 19172344 [PubMed - as supplied by publisher]

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