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of Photodymanic Therapy with Azulene on Singlet en Formation

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ose: The present study aims to examine the effect of ene, a novel photosensitizer in photodynamic therapy, inglet oxygen formation.

erials and Methods: Buffy coat layers were courtesy Central Blood Bank, Srinakarin Hospital, Khon Kaen, land. Subsequently, peripheral blood mononuclear cells MC) were extracted from buffy coat using Ficoll-aque solution. 1 x 10^5 PBMC cells were cultured in k 96-well plate in RPMI1640 medium with 10% fetal e serum at 37C 5% CO_2, 95% humidity for 24 hours. n azulene a blue organic compound at concentration 0, 50, 100, 500 and 1,000 M were applied to each well of well plate for 30 mins. Each well was illuminated for 8 s by arbitrary fabricated-light emitting diode machine at velength 625 ± 5 nm, energy 4.2 J/cm^2. Aliquot from nditioned medium were immediately transferred and la-ed with 9, 10 - dimethylanthracene (DMA). Finally, flu-scent intensities were measured at excitation and emis-n wavelength 374 and 436 nm, respectively. Compari-s of the amount of singlet oxygen formation from the flu-spectroscopy light intensity were performed using one-y ANOVA with post hoc test.

sults: The singlet oxygen formation was observed only en irradiation was conducted. Irradiated group yield re singlet oxygen than non-irradiated counterpart ($p < 05$). The higher the concentration of azulene resulted in e higher the amount of singlet oxygen.

onclusions: Thus, it could be concluded that azulene is e of an active photosensitizer which could dramatically duced singlet oxygen formation and may be a useful tool r killing undesired mononuclear cells.

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Evaluation of the Viability Effect of Photobiomodulation on Squamous Cell Carcinoma; An *in vitro* Study

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Introduction: Low-level laser therapy (LLLT) has been shown to accelerate cell proliferation, though there is controversy between this proliferation effect of LLLT in normal and carcinomatous cells due to susceptibility of malignant cells to proliferative stimuli.
Our goal is to compare the biological response of squamous cell carcinoma cells proliferation to 4 different wavelengths of diode lasers while other parameters are the same.
Material and Method: HN5 Cell line were irradiated with diode lasers (532-485-660-810 nm) using 1.0 J/cm^2 energy densities in the continuous mode during 5 consecutive days at the same daytime. The proliferative potential was assessed by MTT assay.
Results: In this study our results showed that 810 nm laser irradiation induced the highest percentage of cell survival despite 660 nm which induced the lowest percentage of cell survival. We conclude that both dose and wavelengths are factors that may affect the percentage of viability of HN5 cells.
Conclusion: This study demonstrated that LLLT stimulatory effect on proliferation can effect on invasion which was associated with alterations on expression of proteins which should be assessed in details.

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Evaluation of Cleaning Efficacy of Laser-Activated Irrigation in Simulated Accessory Canals

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Purpose: Laser-activated irrigation (LAI) using an Er:YAG laser (Erwin AdvErl: Morita Japan) is an irrigant agitation method. However, the ability of LAI to efficiently clean accessory canals remains unclear. This study aimed to investigate the influence of the duration of irradiation on the cleaning efficacy of LAI in the accessory canal.
Materials and Methods: Transparent root canal models with