

Analisis sitotoksitas ekstrak etanol temulawak (*Curcuma xanthorrhiza roxb.*) terhadap sel fibroblast gingiva menggunakan live/dead staining (in vitro) = Cytotoxicity analysis of ethanol turmeric extract (*Curcuma xanthorrhiza roxb.*) againts gingival fibroblast using live/dead staining (in vitro)

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Abstrak

Latar Belakang: Obat antifungal sintetik dilaporkan menimbulkan reaksi gastrointestinal. Ekstrak etanol temulawak merupakan tanaman obat yang memiliki efikasi sebagai antijamur. Untuk dijadikan obat alternatif, ekstrak etanol temulawak harus biokompatibel terhadap sel inang. **Tujuan:** Menganalisis efek sitotoksitas ekstrak etanol temulawak terhadap sel fibroblast gingiva secara in vitro dengan live/dead staining. **Metode:** Sel fibroblast gingiva passage kedua dikultur sebanyak $1,4 \times 10^4$ sel/wells di atas cover glass dalam 12 wells plate. Sel diberi perlakuan dengan konsentrasi ekstrak etanol temulawak 5% dan 20% dengan waktu paparan 1 jam, 3 jam, dan 24 jam. Viabilitas dilihat dari uji live/dead staining menggunakan confocal laser scanning microscope dengan fluorescent dye SYTO9 ex/em max: 480/500nm, PI ex/em max: 490/635nm. **Hasil:** intensitas fluorescent semakin tinggi berbanding lurus dengan peningkatan konsentrasi ekstrak etanol temulawak. **Kesimpulan:** ekstrak etanol temulawak memiliki efek sitotoksik pada konsentrasi 5% dan 20% pada sel fibroblast gingiva.

.....**Background:** Synthetic antifungal drugs are reported to cause gastrointestinal reactions. Ethanol turmeric extract is a herbal drug that has antifungal efficacy. To be used as an alternative drug, ethanol turmeric extract must be biocompatible with host cells. **Objective:** Analyze the cytotoxicity of ethanol turmeric extract on gingival fibroblasts in vitro with live/dead staining. **Methods:** The second passage gingival fibroblast cell was cultured as much as 1.4×10^4 cells / wells on the cover glass in 12 well plates. Cells were treated with ethanol turmeric extract concentrations of 5% and 20% with exposure time of 1 hour, 3 hours and 24 hours. Viability seen from live/dead staining assay using confocal laser scanning microscope with fluorescent dye SYTO9 ex/em max: 480/500nm, PI ex/em max: 490/635nm. **Results:** The higher fluorescent intensity is linear to increase in concentration of dilution ethanol turmeric extract. **Conclusion:** Ethanol turmeric extract has a cytotoxic effect at concentrations of 5% and 20% on gingival fibroblast cells.<i>