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Flaxseed ethanolic crude extract influences growth of stem cells from human exfoliated deciduous teeth (SHED) (Article)

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Abstract

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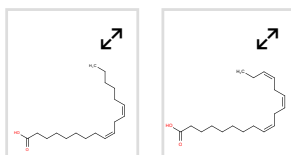
Previous study reported that plant natural product promotes stem cell growth. Flaxseed (*Linum usitatissimum*) contains numerous compounds recognized for its health benefits. This study aimed to investigate the biological effects of flaxseed crude extract on stem cells obtained from human exfoliated deciduous teeth (SHED). Whole flaxseeds were ground and extracted with absolute ethanol using soxhlet extractor. The effects of flaxseed crude extract on SHED were assessed at concentration 1, 2, 4, 8 and 16 mg/ml for cell viability using MTT assay, cell morphology using inverted microscope and proliferative activity describe as population doubling time (PDT) using alamarBlue assay. The fatty acid composition of flaxseed was analysed using gas chromatography-mass spectrometry (GCMS) instrumental technique. Although insignificant, flaxseed at concentration up to 4 mg/ml slightly increased SHED proliferation activity while maintaining cell viability and morphology. However, 8 mg/ml of flaxseed inhibited cell viability and proliferation activity, and changed the cell morphology. GCMS analysis revealed the presence of linolenic acid, linoleic acid, palmitic acid and stearic acid. Overall, ethanolic crude extract of flaxseed at concentration up to 4 mg/ml slightly enhanced the growth and maintained the morphology of SHED. © 2018 University of Dicle.

SciVal Topic Prominence

Topic: [Flax](#) | [Lignans](#) | [Diglucoside SDG](#)Prominence percentile: 91.986 

Chemistry database information

Substances



Author keywords

[Cell viability](#) [Flaxseed crude extract](#) [Proliferation activity](#) [Stem cells](#)

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