

Elicitation of secondary metabolites in cotyledonary callus of *Ziziphus spina-christi* and the antioxidant activity in different callus lines using FRAP method.

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Ziziphus spina-christi (L.) Desf. or “Christ's Thorn”, (Arabic name is "Siddar") (Rhamnaceae) is a tropical evergreen tree with edible fruits and high medicinal value. Almost every parts of the plant is used in traditional medicine to treat several illnesses like dermatitis, eye inflammation, toothache, stomachache, rheumatoid arthritis and as an antidiabetic drug. Because of its high medicinal value, several attempts have investigated the propagation and utilization of *Z. spina-christi*. This study is aimed at testing the effect of different plant growth media and different chemo-elicitors on the secondary metabolites production in cotyledonary callus propagated *in vitro*. The primary results indicate significant differences in total secondary metabolites and antioxidant activity when using different growth media (MS, QL and B5). Using UV spectroscopy, the total secondary metabolites of the aquatic extract was analyzed showing significant difference in a compound with an absorbance at 359 nm between the three media types used. In the FRAP assay, the antioxidant activity of callus extract grown on three different media varies with highest reducing ability in the extract from B5 media. The absorbance at 593nm with FRAP assay were 0.189, 0.327, 0.380 on B5, QL and MS respectively.