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*In vitro*Propagation and Essential Oils Composition with Cytotoxicity of *Daucuscapillifolius*Gilli(Apiaceae)

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Abstract: Micropropagation and callus culture of *Daucuscapillifolius*Gilli (Apiaceae) were successfully established inMurashige and Skoog(MS) solid medium enriched with different plant growth regulators. The combination of NAA (1mg/L) + BAP (0.1mg/L) was found to be the optimumfor both organogenesis and embryogenesis. The compositions of essential oils obtainedfrom wild fruits, cultivated fruits and callus culture were analyzed by GC–MS. The major identified constituents of the essential oils of wild and cultivated fruits were geranyl acetate (31.84%, 32.49%), α-azarone (21.69%), β-azarone (20.63 %), trans methyl isoeugenol (11.0%, 7.48%), α-humulene (7.25%, 4.35%), juniper camphor (4.71%, 4.26%) and α-pinene (3.26%, 3.63%), respectively. When screened, the essential oil of the wild fruits exhibited potent cytotoxic effect against Hep-G2 with IC5014.9 µg/mL and moderate activity against MCF-7 and HCT-116 cells with IC50 (29.1and 59.8 µg/mL), respectively.Meanwhile,the essential oil of the cultivated fruitsexhibited moderate activity against Hep-G2, MCF-7 and HCT-116 with IC50(36.7, 53.7 and 48.0 µg/mL), respectively.

Keywords:*Daucuscapillifolius*, essential oils,asarone, callus culture,micropropagation, cytotoxicity.

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