**PHYTOCHEMICAL CHARACTERIZATION AND THE CYTOTOXIC EFFECT OF CARROT (*Daucus carota* L.) OIL AGAINST SK MEL 28 CELL LINES**

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**ABSTRACT**

Biochemically carrot is a rich source of b β-carotene, fiber and many essential micronutrients and functional ingredients. The presence of high concentrations of carotenoids, especially β-carotene in carrot roots makes them to inhibit cancers, free radical scavengers, anti- mutagenic and immune-enhancers. The present study focuses on the physio-chemical properties and cytotoxic activities of the carrot oil. The extracted oil was yellowish in colour. In our study, methanol extract was found to be a good solvent extract, which showed a positive correlation between total phenolics, flavonoids and other phytochemical constituents. Its physio-chemical properties like saponification value, peroxide value, iodine value and free fatty acid value simply reveals commercial oil properties of carrot oil. But in the carrot oil the fatty acid content was more when compared to commercial oils.

Carrot oil was cytotoxic to all cell lines with Ic50 values ranging from molar concentrations. Screening of carrot oil reveals its high cytotoxic activity against SkMel 28 cell lines. The percentage viability of cells treated with carrot oil at different concentration. All control cells were found to be viable. The result was compared with the IC50 value. Further studies can be done on this plant extract to obtain more data for characterisation of responsible anticancer phytoconstituents, potential mode of action, as well as take the research forward for further exploration.

**Key words:** Carrot oil, cytotoxic, fatty acid, physio-chemical, screening, viable