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Phytochemical Profiling Using GC-MS Analysis and Evaluation of Cytotoxic Potential of *Cucumis prophetarum* L. Fruit Extract

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SUMMARY. The current study examined phytochemical composition of ethanolic extract and evaluated cytotoxic properties of *Cucumis prophetarum* L. GC-MS analysis was performed to evaluate the phytochemical composition. The cytotoxic potential of the extract was detrmined by MTT assay. Fatty acid esters (43.74%), phthalic acid diesters (11.38%), fatty acid silyl esters (4.15%), and siloxane derivatives (3.88%), aromatic monoterpenes (2.75%) and pentacyclic triterpenoids (1.21%) were the main components detected in the extract. The human cancer cell-lines including MCF7, A2780, HT29, and normal fetal lung fibroblasts (MRC5), used to determine cytotoxicity and selectivity of the extract. Results indicated that MCF7 cells exhibited highest sensitivity (IC_{50}: 3.30 µg/mL) and the extract was selective and caused early apoptosis against the same cell-lines. This study revealed that the bioactive components in the plant extract might be employed for cytotoxic purposes. The study will be useful to establish the scientific basis for ethnopharmacological usage of the tested plant.

RESUMEN. El presente estudio examinó la composición fitoquímica del extracto etanólico y evaluó las propiedades citotóxicas de *Cucumis prophetarum* L. Se realizó un análisis GC-MS para evaluar la composición fitoquímica. El potencial citotóxico del extracto se determinó mediante el ensayo MTT. Los ésteres de ácidos grasos (43,74%), diésteres de ácido ftálico (11,38%), ésteres de sililo de ácidos grasos (4,15%) y derivados de siloxano (3,88%), monoterpenos aromáticos (2,75%) y triterpenoides pentacíclicos (1,21%) fueron los principales componentes detectados en el extracto. Las líneas celulares de cáncer humano, incluidas MCF7, A2780, HT29 y fibroblastos pulmonares fetales normales (MRC5), se utilizaron para determinar la citotoxicidad y la selectividad del extracto. Los resultados indicaron que las células MCF7 exhibieron la mayor sensibilidad (IC50: 3,30 µg/mL) y que el extracto fue selectivo y provocó una apoptosis temprana contra las mismas líneas celulares. Este estudio reveló que los componentes bioactivos del extracto de la planta podrían emplearse con fines citotóxicos. El estudio será útil para establecer la base científica para el uso etnofarmacológico de la planta analizada.

KEY WORDS: apoptosis, *Cucumis prophetarum* L, cytotoxic, GC-MS, phytochemical, selectivity.

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