



## CELL CYCLE ARREST AND INDUCTION OF APOPTOSIS IN HUMAN CANCER CELLS LINES BY DATE PALM KERNELS EXTRACTS AND ISOLATED CYTOTOXIC COMPOUNDS

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### Abstract:

This study conducted to identify the mechanism of cell death that induced by these isolated flavonoids, either by induction of apoptosis or necrosis. Three flavonoids namely nobiletin (NOB), tectorigenin (TEC) and persicognin (PERSI) were isolated from the optimised extractable polyphenols (EPP) crude extract of date palm kernels (DPK). The effect of crude EPP, NOB, TEC, PERS and the non-extractable polyphenols (NEPP) from DPK and paclitaxel on human lung cancer A549 and human colon cancer HT29 cell lines and on the normal murine fibroblast 3T3 cell line were investigated using MTT crystal violet and trypan blue exclusion assays. The morphological changes of treated cells inspected by light inverted microscopy. Cell cycle progression using propidium iodide staining examined by flow cytometry. The apoptotic effect of the crude extracts and purified compounds were investigated using annexin V-FITC and propidium iodide staining. The underlying mechanism of apoptosis induced by crude extracts and the isolated compounds was investigated using caspase-3, -8 and -9 assays and the mitochondrial membrane potential assay.

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### Recent Publications:

1. Active Fractions of Methanol Crude Obtained from Acacia Seyal Gum and their Antiproliferative Effects



against Human Breast Cancer Cell Lines

2. A grand avenue to integrate deep eutectic solvents into biomass processing
3. Potential food additive of *Boswellia carterii* essential oil encapsulated within gum arabic: a particle size distribution and zeta potential analysis
4. Statistical Analysis Investigation on Vegetable Oils Stability during Deep Frying using Selected Quality Parameters
5. GUM ARABIC MORE THAN EMULSIFIER AND FOOD ADDITIVE; A NEW EXPERIMENTAL VALIDATION OF ANTI-PROLIFERATIVE AGAINST COLORECTAL COLON CANCER CELL LINES: Part 2

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