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## Anticancer activity of *Aloe vera* and *Calligonum comosum* extracts separately on hepatocellular carcinoma cells

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**Objective:** The present study aimed to investigate the *in vitro* anticancer effect of *Aloe vera* and *Calligonum comosum* extracts against hepatocellular carcinoma (HepG2) cells.

**Methods:** HepG2 cells were tested against different doses of *A. vera* and *C. comosum*. Viability of the cells was assessed by MTT assay. Evaluation of apoptosis and DNA damage in HepG2 cells were performed using Annexin V Apoptosis Detection Kit. The expression of p53 and anti-apoptotic (Bcl-2) were tested by Real Time-PCR and flow cytometer analyzer. Hematoxylin & Eosin stained sections from untreated and treated HepG2 cells were observed using light microscopy.

**Results:** The IC<sub>50</sub> values of *A. vera* and *C. comosum* extracts were (10.45±0.31) and (9.6±0.01) µg/ml respectively. The extracts separately increased cytotoxicity against HepG2 cells in a time and dose dependent manners. Also, it apparently induced apoptosis through increase P53 and decrease Bcl-2 genes expressions.

**Conclusion:** The results indicated that the extracts could have anti-hepatocarcinogenic effect at least in part through modulation of apoptosis.

### Biography

Mahmoud M Zakaria Ibrahim has worked in the Department of Laboratories (Microbiology, Clinical Chemistry and Clinical Hematology Labs.) of Urology & Nephrology Center, Mansoura University. He is currently working as a Molecular Biologist in Research Building (Gene Expression, Tissue Culture, Stem Cell Labs). He has obtained his Master's degree in Immunology and PhD degree in Human Physiology (2012). He has publicized 11 manuscripts in reputed journals in the field of cancer research and stem cell differentiation. He is currently a Supervisor of Gene Expression Lab.

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