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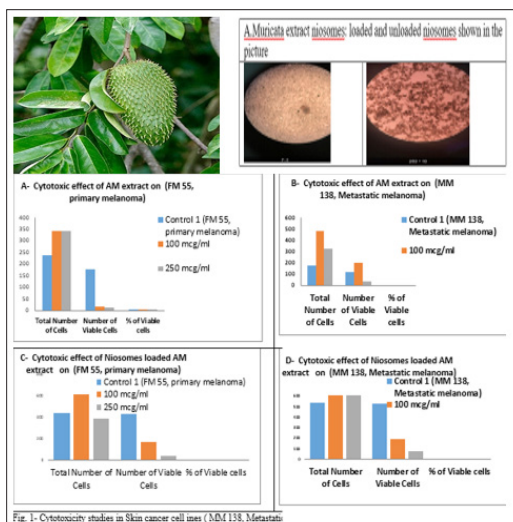
# CHEMISTRY IN DRUG DISCOVERY & DESIGNING

April 16-17, 2018 Dubai, UAE

## Novel carbopol-based niosomal gel of *Annona muricata* leaves extract for skin cancer treatment: *In vitro* characterization and *in vivo* study

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Cancer is an unrestrained progression of abnormal cells which results from variations in DNA. In the war against cancer, nature plays a big role in treatment. *Annona muricata* (graviola) has been reported to have anticancer activity in breast, colorectal and lung, but it has not been investigated for melanoma skin cancer. In the present study, niosomal gel containing *Annona muricata* leaves extract was investigated for the treatment of skin cancer. Different formulations of niosomes were prepared using span-60 and cholesterol. The vesicles were characterized for particle size, shape, entrapment efficiency, deformability and *in vitro* skin permeation. Optimized formulation was incorporated into 1% carbopol 940 gel and evaluated for efficacy in the treatment of skin cancer. Cytotoxic activity of the *Annona muricata* extract was observed against skin cancer cell lines A4321 using 3-(4, 5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide) MTT assay. *Annona muricata* leaves extract was also examined *in vivo* for their anticancer activity, using different groups of rats and mice, using skin cancer cell lines A4321 versus normal cell line HEK 293 cells and known marketing anticancer drug Cisplatin or 5 FU.



### References

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2. Tain Y, Mai N, Sohelia D, Wei B, Chin chung L (2007) LC-MS/MS method for simultaneous determination of viramidine and graviola extract levels in monkey red blood cells. *J Pharm Biomed Anal.* 43(3): 1057-64.

### Biography

Tasnim Yasser Kitaz is currently a graduate student at Dubai Pharmacy College, Dubai. He is interested on Drug Discovery, Drug Design.

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