Electronic Supplementary Informationl (ESI) for RSC Advances.

Gold nanoparticles from indole-3-carbinol exhibit cytotoxic, genotoxic and antineoplastic effects

Electronic supplementary information (ESI)

Characterization of gold nano particles from indole-3-carbinol(AuNPI3C)

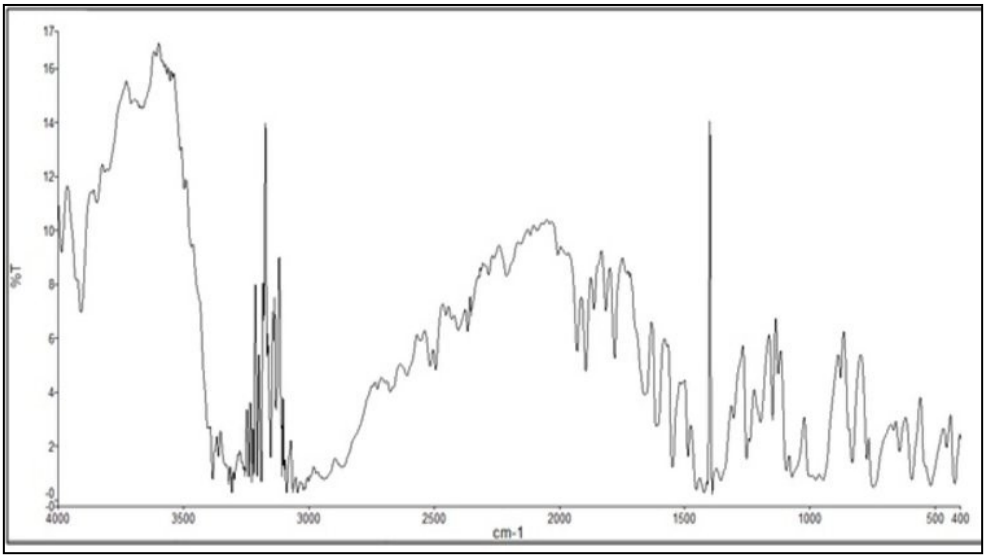

Fig. S1A Fourier transform infrared spectra of indole-3-carbinol (I3C).

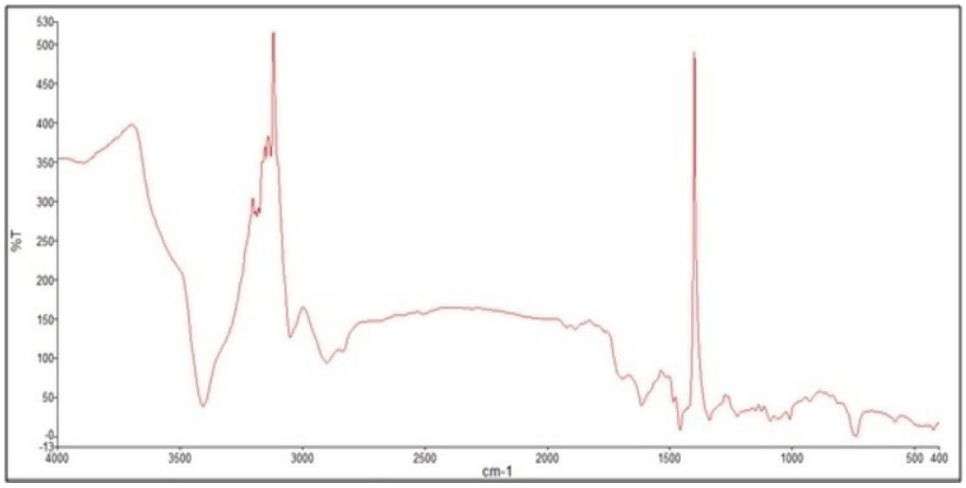

Fig. S1B Fourier transform infrared spectra of indole-3-carbinol synthesized AuNP.

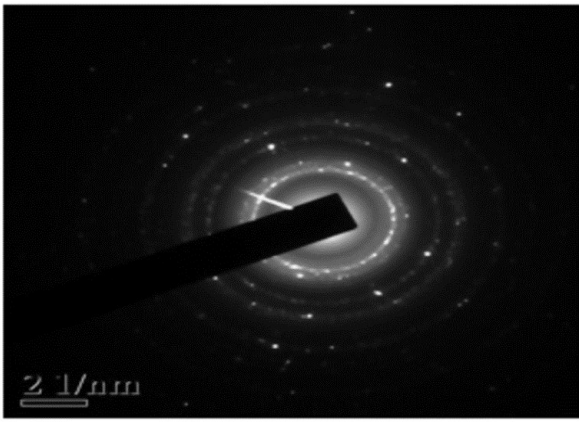

Fig. S2 The selected area electron diffraction (SAED) image of AuNPI3Cs.

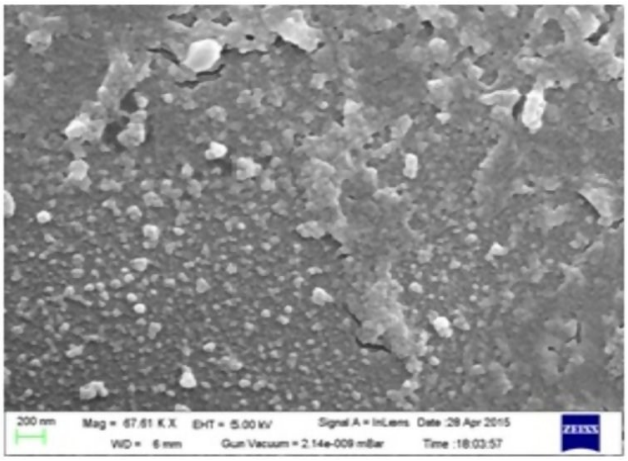

Fig. S3 SEM image of gold nanoparticles treating 0.5mM aqueous chloroauric acid solution with indole-3-carbinol.

A. Cytotoxicity of gold nano particles from indole-3-carbinol(AuNPI3C) against cancer cell

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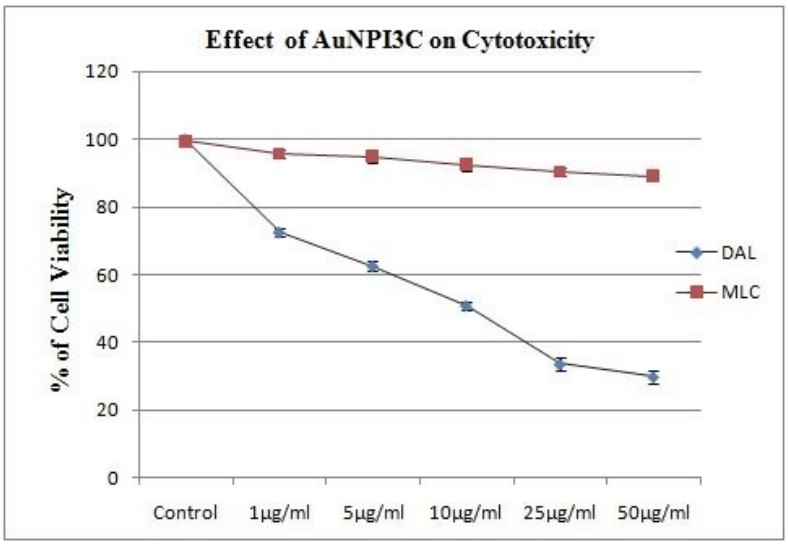

Fig. S4 *In vitro* cell viability assay of DAL cells and mice lymphocyte cells (MLCs) with AuNPI3Cs.Cells were treated with AuNPI3C for 24 h at 37°C. Values are expressed as the means ± SEM of three experiments.

B. Study on Oxidative Stress

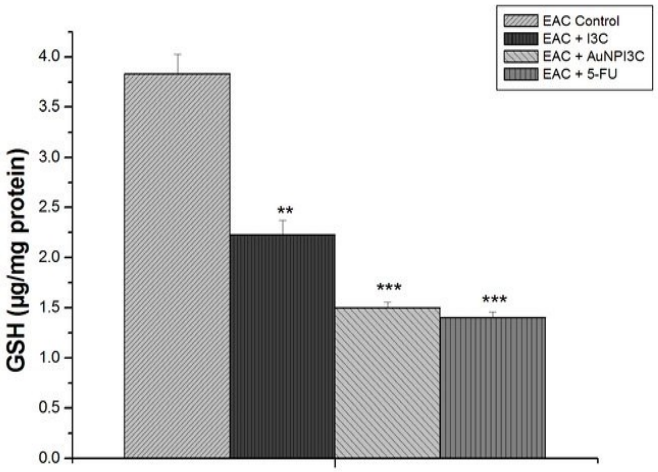

Fig. S5A Effect of AuNPI3Cs on intracellular glutathione (GSH) levels in EAC cells. After 24 h treatment with AuNPI3Cs (5µg/ml), the cells were measured for GSH levels.The levels of GSH were expressed as µg of GSH mg^{-1} protein. Data are presented as the means ± SEM; ** $p<0.01$, *** $p<0.001$,statistically significant difference compared with the control group. Experiments were repeated in triplicate.

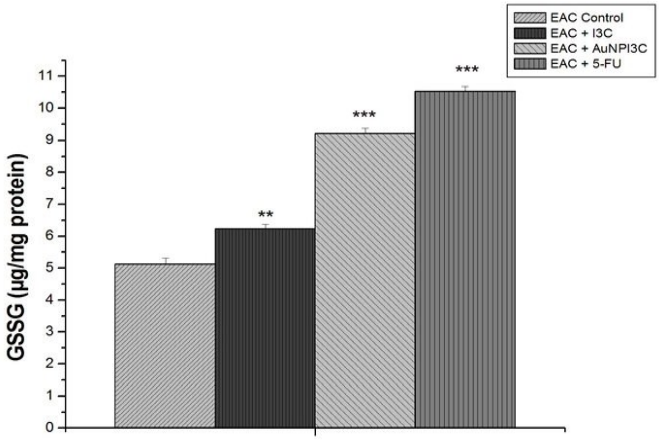

Fig. S5B Effect of AuNPI3Cs on intracellular oxidized glutathione (GSSG) levels of EAC cells. The levels of GSSG were expressed as µg of GSSG mg^{-1} protein. Data are presented as

the means ± SEM; ** $p<0.01$, *** $p<0.001$,statistically significant difference compared with the control group. Experiments were repeated in triplicate.

DNA damage

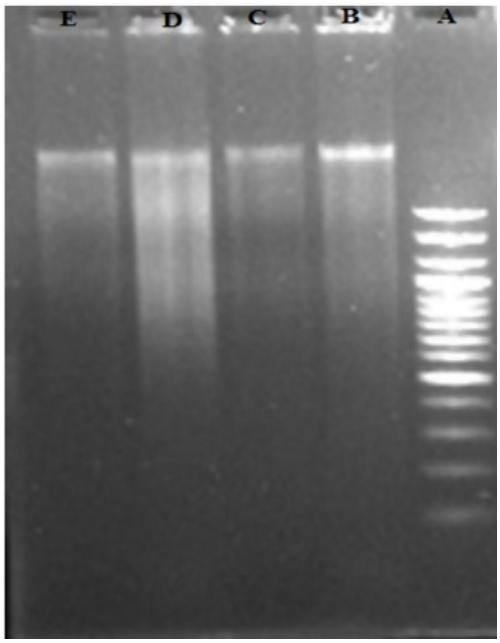

Fig. S6 Study of DNA fragmentation by agarose gel electrophoresis. (A: 100 bp DNA Ladder, B: Control, C: I3C-treated EAC,D: AuNPI3Cs-treated EAC and E: 5-FU-treated EAC cells).

Measurement of Mitochondrial membrane potential by Rhodamine 123

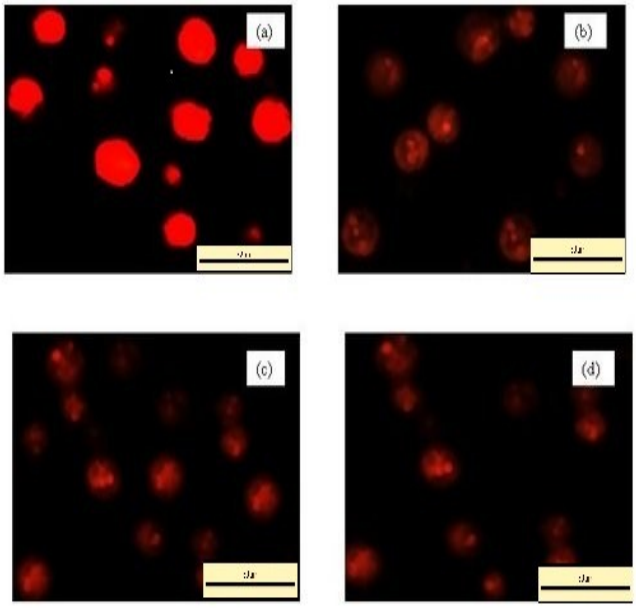

Fig. S7A Qualitative characterization of mitochondrial membrane potential by Rhodamine 123 staining using fluorescence microscopy.Here, (a) Control; (b) I3C-treated EAC cells; (c) AuNPI3Cs-treated EAC cells; and (d) 5-FU-treated EAC cells.

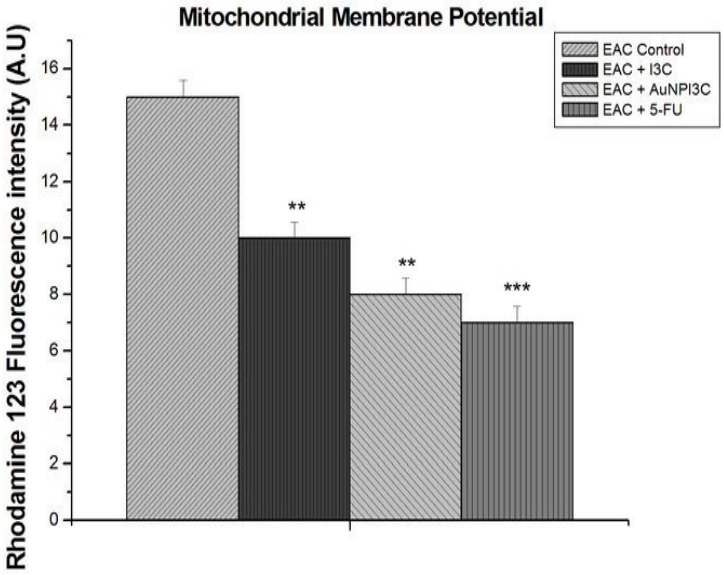

Fig. S7B Rhodamine 123 fluorescence intensity in mitochondria of EAC cells.Values are expressed as the means ± SEM of three experiments; '**' indicate a significant difference ($p<0.01$) compared with control group.