Supplementary Material

In vitro and *in vivo* biological characterization of the anti-proliferative potential of a cyclic trinuclear organotin(IV) complex

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Cell viability of normal ephitelial cell line

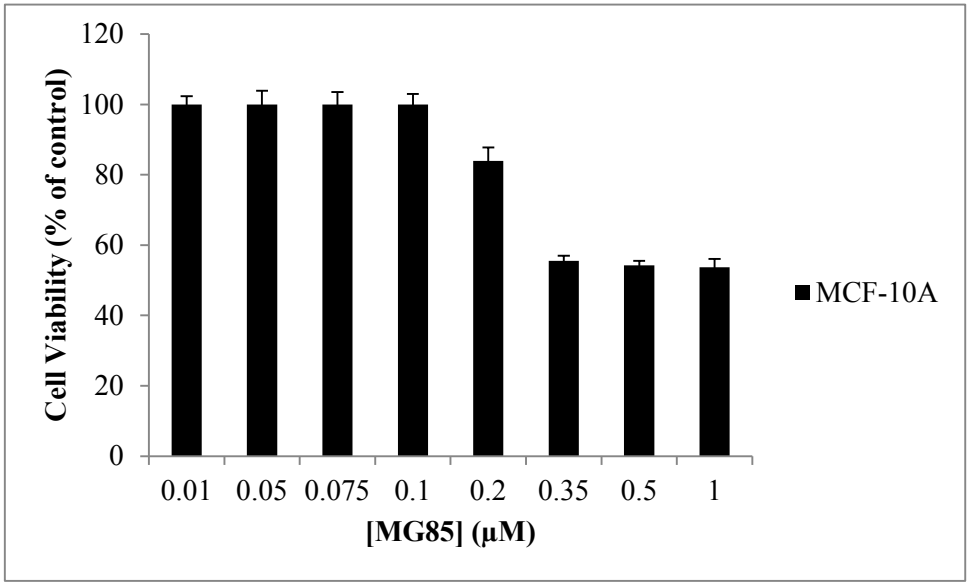

Figure S1. Dose-dependent cytotoxicity of MG85 in non-tumorigenic epithelial cells MCF-10A. Cells were incubated for 48 h in the presence of increasing concentrations of MG85. Cell viability was determined using the MTS assay. Results are expressed as the mean ± SEM percentage compared to controls from three independent experiments.

Interaction of MG85 with DNA

The UV- Vis spectra of the MG85 complex exhibited n→π*or π→π* charge transfer bands between 240-340 nm (Figure S2).

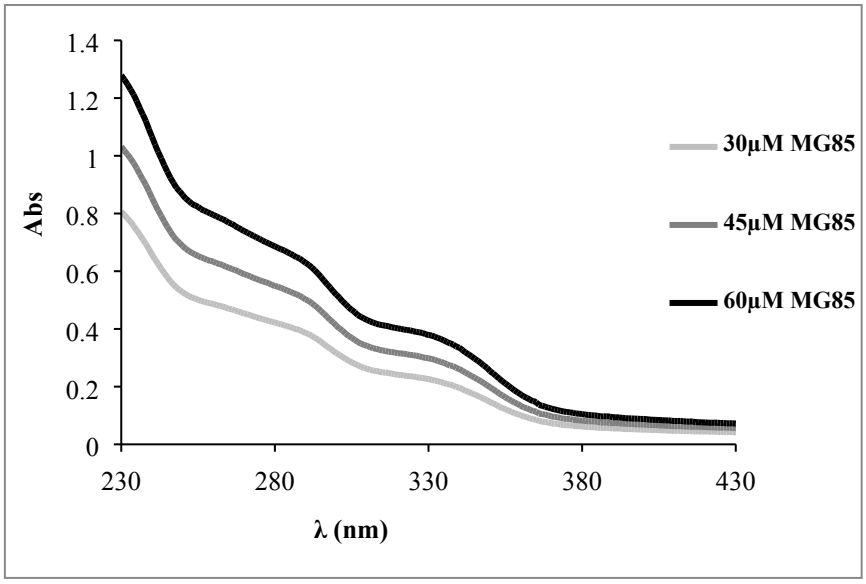

Figure S2. Absorption titration spectra of MG85 complex in Tris-HCl 5 mM, NaCl 50 mM buffer (pH 7.0) at three different concentrations (30, 45 and 60 μM). Abs – Absorbance. λ – wavelength.

The electrophoretic analysis of pBSKII DNA after exposure to increasing concentrations of MG85 complex and incubation for 4 h (Figure S3) points out the inability of the complex to induce single or double-strand cleavage. This is shown by the absence of any increment in the intensity of open circular and linear forms of plasmid DNA. We have neither observed any alteration in electrophoretic mobility pattern of supercoiled plasmid DNA, which indicates that the complex does not possess ability to intercalate in the DNA molecule as demonstrated for cisplatin.

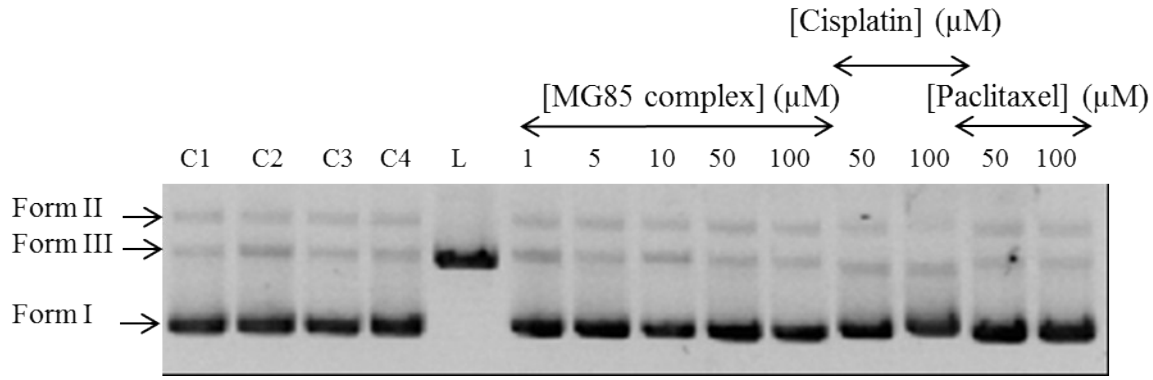

Figure S3. Incubation of pUC18 with 1-100 μM of the MG85 complex, 50 and 100 μM of cisplatin or 50 and 100 μM paclitaxel. All reactions were conducted in 5 mM Tris-HCl, 50 mM NaCl buffer (pH 7.2) for 16 h at 37ºC. Plasmid DNA pUC18: (C1) untreated; (C2) incubated with DMSO (10 % (v/v)) (paclitaxel control); (C3) incubated with 0.9% (w/v) NaCl (cisplatin solvent control); (C4) incubated with EtOH (10% (v/v)) (MG85 solvent control); (L) Digested with *EcoRI*; Form I - supercoiled; Form II - relaxed circular; Form III - linear.

The ability of the MG85 complex to inhibit topoisomerase II activity was also evaluated (Figure S4). Incubation of catenated DNA with increasing concentrations of MG85 showed that topoisomerase II was capable to resolve these structures for all tested concentrations.

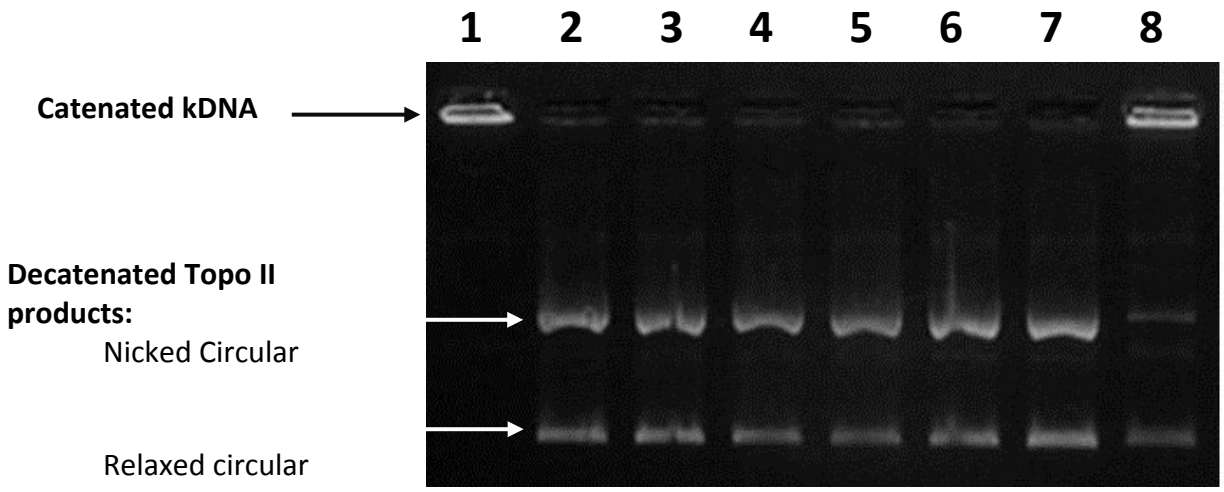

Figure S4. Electrophoretic evaluation of the decatenating activity of Topoisomerase II. (1) Fully catenated kDNA. kDNA treated with 2U of Topoisomerase II and incubated in the presence of: (2) assay buffer (control); (3) 1% (v/v) absolute ethanol (vehicle control); (4) 5μM of MG85; (5) 10 μM of MG85; (6) 50 μM of MG85; (7) 100 μM of MG85; (8) 5μM of Doxorubicin.