

## Concomitant delivery of doxorubicin and cisplatin

### Supplementary material

*Effect of IC<sub>10</sub> of Dox and Cis in free form, NTSLs and TSLs at 37 °C, 42 °C in SKBR3, MDA-MB-231, PC-3, LNcaP cancer cells*

The data revealed the instantaneous decline in the cell viability as observed as 23% in SKBR3 and MDA-MB-231, 27.33% in PC-3, and 26.33% in LNcaP cells, while treated with Dox-TSL + Cis-TSL and incubated the cells at 42°C. However, this combination in NTSLs showed 51% cell viability in SKBR3 and MDA-MB-231 cells, 47% in PC-3, and 50% in LNcaP cells, when incubated at 37°C. The combination of Dox and Cis in TSLs and treatment at hyperthermia, showed the synergistic effect, also indicating the use of the chemotherapeutic drug in minimal concentration to avoid any side effect ([Supplementary Figure 1](#)).

*Confirmation of the development of cancer by histopathological analysis of the tissues using H&E staining*

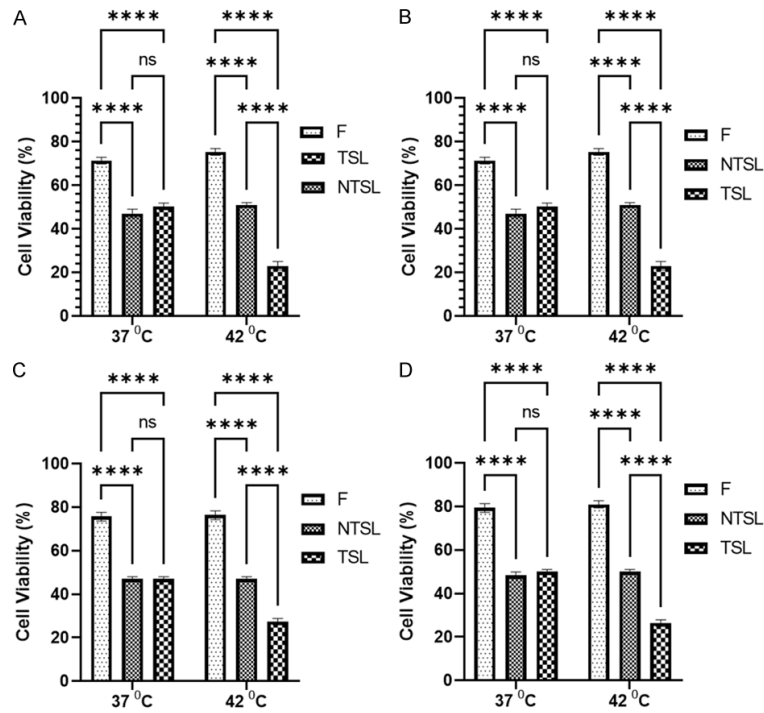
As the therapy was started after the tumor size reached to 200 mm<sup>3</sup>, the development of the fibrosarcoma in the untreated mice was also ascertained by the histopathological analysis at this stage. The representative photomicrograph of H & E-stained slides exhibited the pleomorphic spindle shaped cells with wavy nuclei admixed with rounded epithelioid cells in fibrous stroma (Brown Arrow). The photomicrograph also revealed the angiogenesis (Green arrow) along with necrosis and hemorrhage in the tissue that were marked with stars ([Supplementary Figure 2](#)).

**Supplementary Table 1.** Breast cancer cells (SKBR3 and MDA-MB-231), Prostate cancer cells (PC-3 and LNcaP) were treated with the combination of Dox and Cis by the IC<sub>10</sub> Concentrations at 37 °C and 42 °C separately as follows

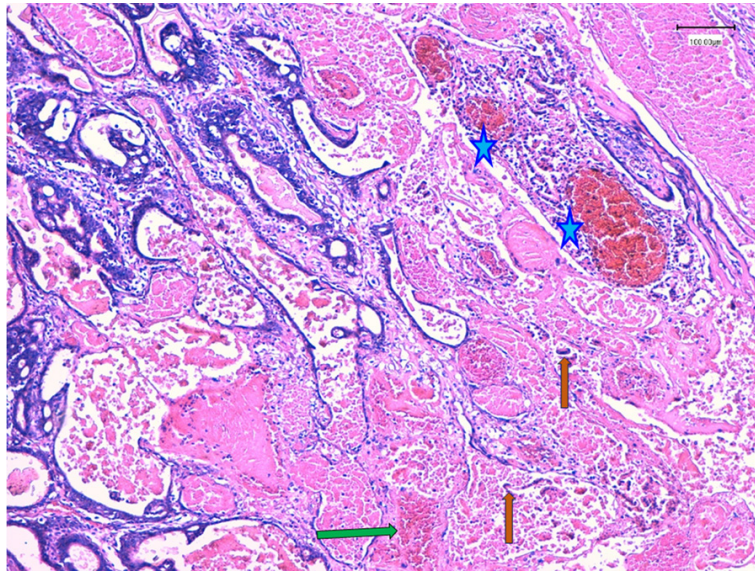
Group Name	Type of formulations
F	Free Dox + Free Cis
NTSL	Dox-NTSL + Cis-NTSL
TSL	Dox-TSL + Cis-TSL

(A) SKBR3 Breast Cancer Cells: Dox 0.05 µM, Cisp 0.5 µM, (B) MDA-MB-231 Breast Cancer Cells: Dox 0.1 µM, Cis 0.3 µM, (C) PC-3 prostate Cancer Cells: Dox 0.03 µM, Cis 0.5 µM and (D) LNcaP prostate Cancer Cells: Dox 0.03 µM, Cis 2.0 µM.

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**Supplementary Figure 1.** Effect of combination of Doxorubicin IC10 and Cisplatin IC10 formulations on cell viability at 37 °C and 42 °C in (A) SKBR3 breast cancer cells (B) MDA-MB-231 breast cancer cells (C) PC-3 prostate cancer cells (D) LNcaP prostate cancer cells. The values are expressed as mean  $\pm$  SD of three independent experiments. <sup>ns</sup>No significance within the groups, \*\*\*\*Significant difference between the treated groups  $p$ -value <0.0001.



**Supplementary Figure 2.** The representative image for the confirmation cancer progression by histopathological analysis of the tumor tissues following H&E staining, 100 $\times$ , bar = 100  $\mu$ m.