

# The Implication of Low Dose Dimethyl Sulfoxide on Mitochondrial Function and Oxidative Damage in Cultured Cardiac and Cancer Cells

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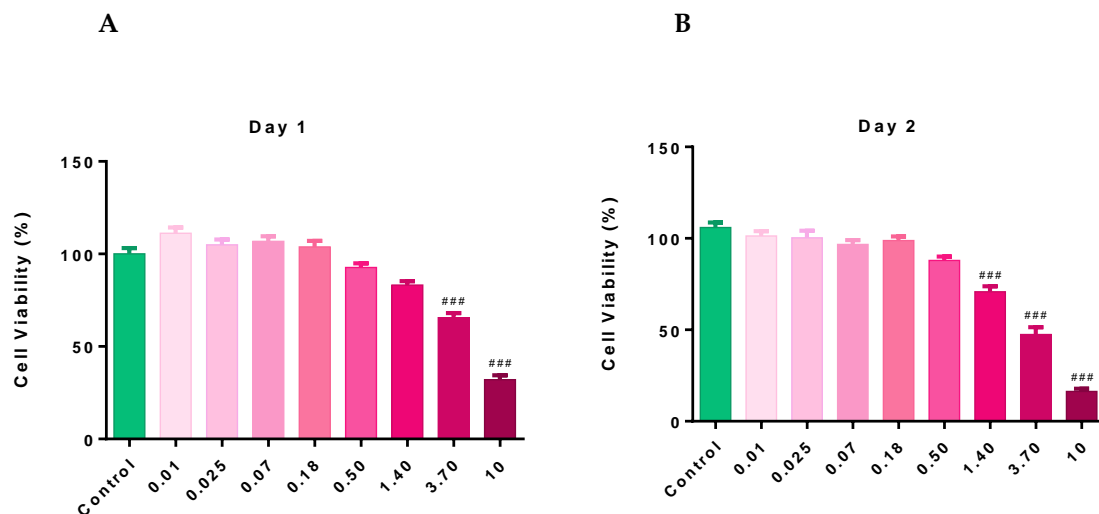
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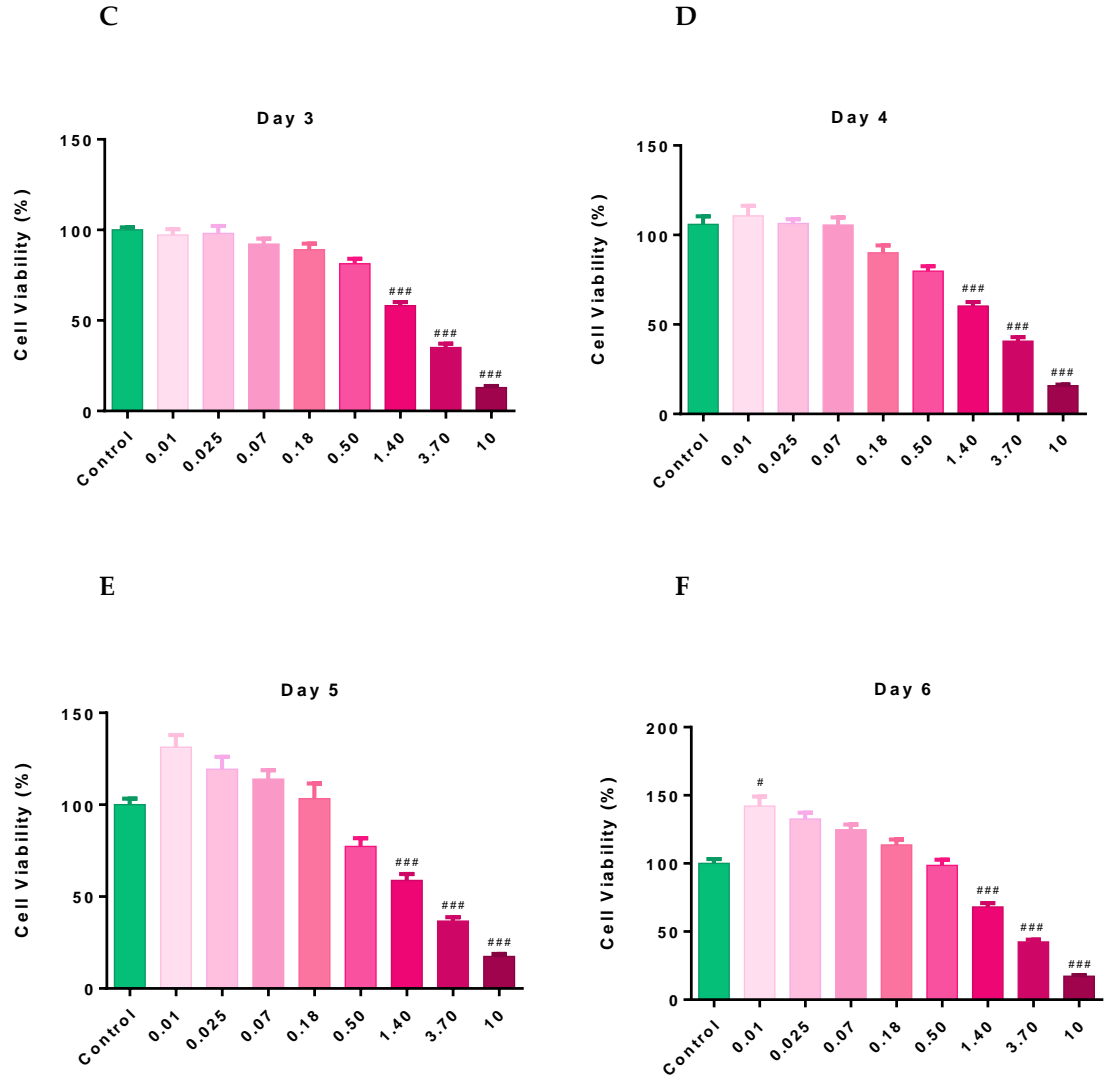
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## 1. Results

### 1.1. Cell Viability

An initial cytotoxicity screening was conducted daily from day 1 – day 6 on healthy cardiomyoblasts using an MTT assay. The H9c2 cells were incubated in MTT solution for 1 hr. Here the results demonstrated no significant effect on the DMSO doses  $\leq 0.5\%$  from day 1 to day 5. From day 5, a gradual increase in cellular activity and metabolism was observed in these cells. Interestingly a more significant effect was observed after the sixth of treatment. Based on these findings, we determined that 6 days of treatment would be the suitable treatment duration to study the effects of DMSO (Fig. 1S). From this data, we further data selected four concentrations, the lowest being 0.001% and the highest being 3.7%.





**Figure S1.** An overview of the cytotoxicity effects of DMSO on the H9c2 cardiomyoblasts. (A) Day 1, (B) day 2, (C) day 3, (D) day 4, (E) day 5 and, (F) day 6. The effect of dimethyl sulfoxide (DMSO) on the cell viability of H9c2 cardiomyoblast and MCF-7 breast cancer cells. Briefly, H9c2 and MCF-7 cells were treated with varying DMSO concentrations (0.001, 0.009, 0.067, 0.5, and 3.7%) every second day for 6 days. Untreated cells served as the control. Data are presented as the mean  $\pm$  SEM of 3 biological experiments with 5 technical repeats ( $n = 3$ ). Significance is indicated as  $^{\#}p < 0.05$  and  $^{###}p < 0.001$  versus the control.