Supplementary

Fucoidan inhibition of osteosarcoma cells is species and molecular weight dependent

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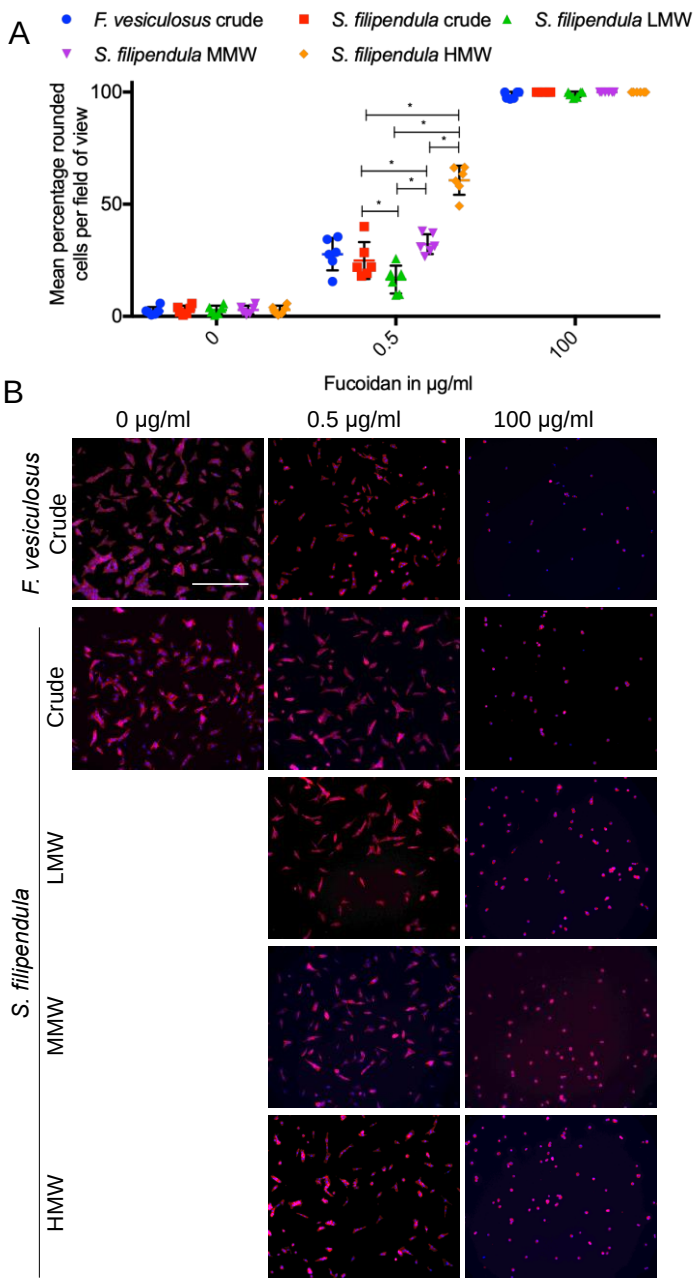

Figure S1: Assessment of MG63 cell morphology by actin staining. A) Mean ± S.D. of MG63 cells with round morphology after seeding in the presence of different doses of fucoidans (n = 6). B) Representative overlay images of actin (red) and DAPI (blue) stained MG63 cells treated with 0, 0.5 and 100 µg/ml of different fucoidan. Scale bar, 500 µm. * $p < 0.05$, # $p < 0.05$ relative to respective vehicle controls.

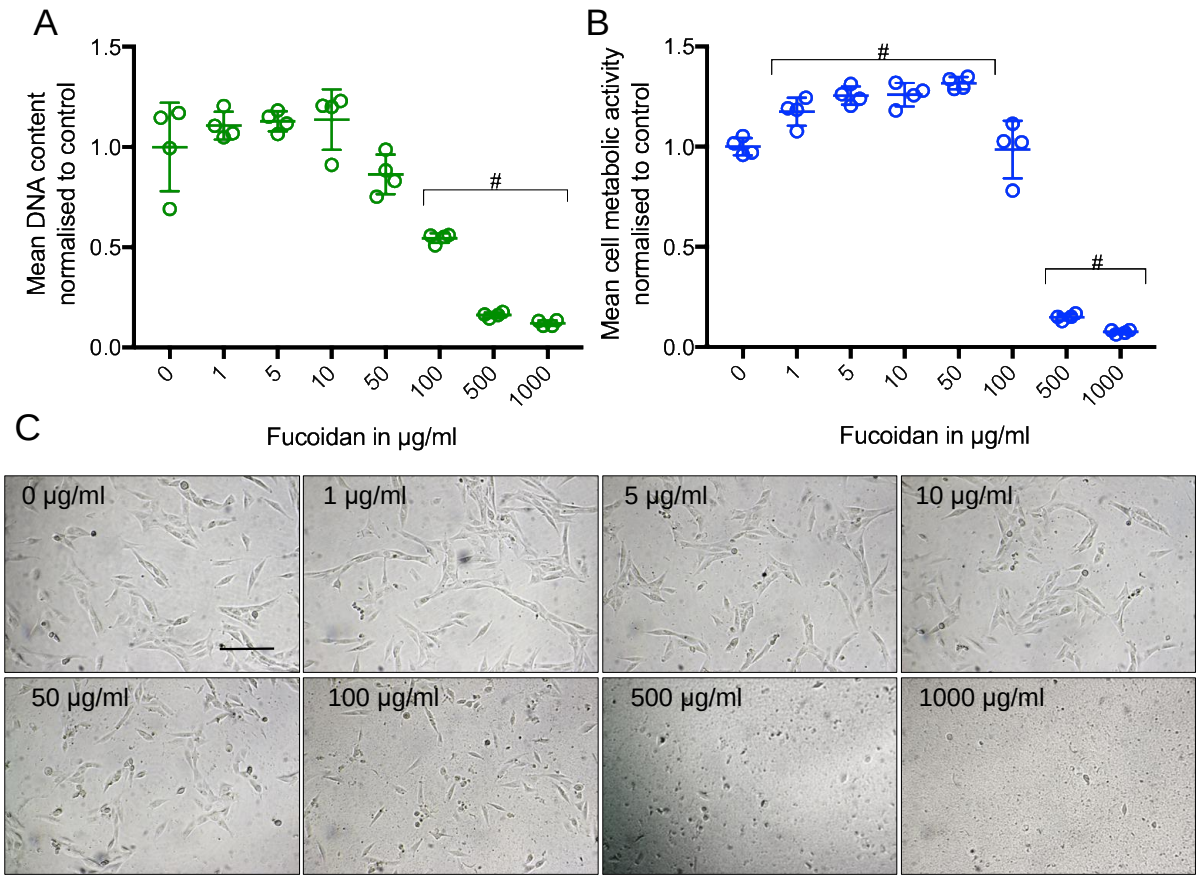

Figure S2: Toxicity of crude fucoidan derived from *F. vesiculosus* on MG63 cells after 1 day of treatment. Presto Blue™ assay for cell metabolic activity and Pico Green assay for DNA content measurements were performed (n = 4). Scale bar, 200 µm. Mean ± S.D. values are shown. # $p < 0.05$ relative to vehicle control.

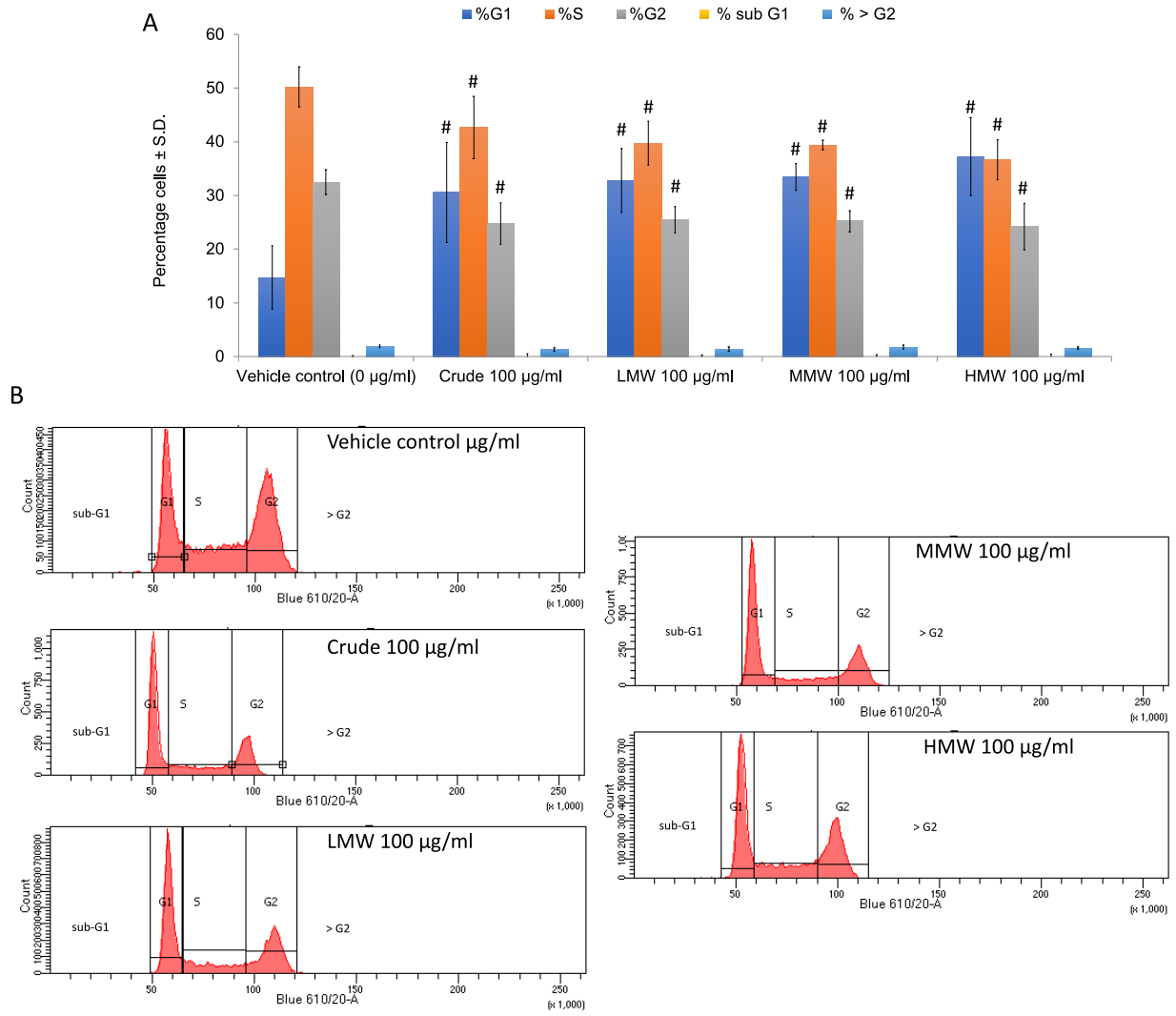

Figure S3: Cell cycle analysis on Day 2 of treatment with 100 ug/ml of *S. filipendula* fucoidans (crude, LMW, MMW and HMW). (A) Mean and S.D. of cells in different phases of cell cycle (n = 3). (B) Representative histograms of cells in sub-G1, G1, S, G2 and > G2 phases in different conditions. There was consistent rise in G1 populations and drop in S and G2 populations after treatment with any of the fucoidans compared to vehicle control (0 ug/ml) and this clearly shows G1 arrest due to these fucoidans. # $p < 0.05$ relative to respective vehicle controls.

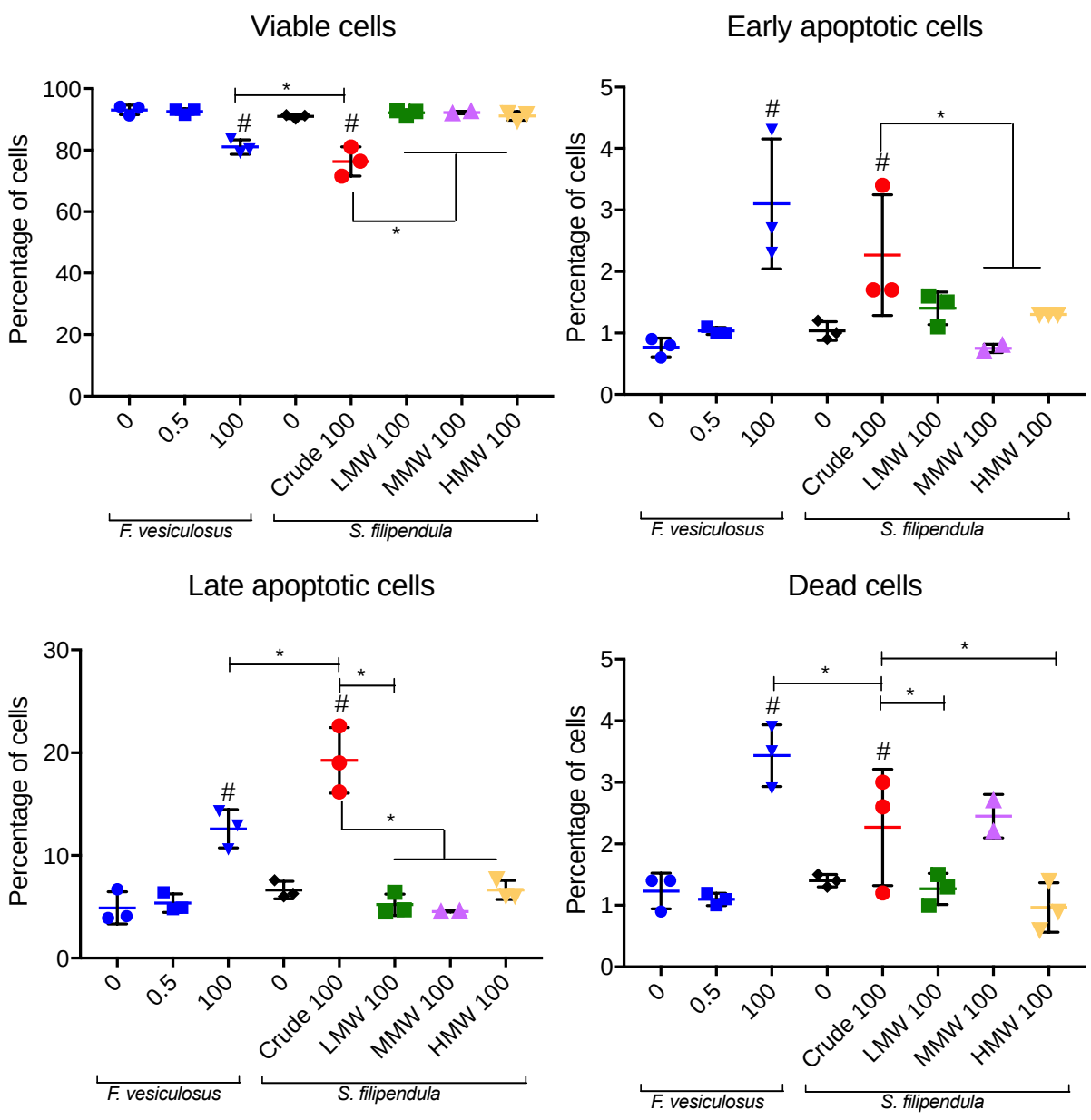

Figure S4: Mean ± S.D. of viable, early apoptotic, late apoptotic and dead MG63 cells as seen through Annexin V/PI staining on day 3 of treatment with different fucoidans. * $p < 0.05$, # $p < 0.05$ relative to respective vehicle controls.