Piperine: A Novel Treatment for Melanoma

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The purpose of this study was to examine the inhibitory effects of piperine, a compound found in black pepper, on B16F10 mouse melanoma cell growth, and to see, when UV is added to B16F10 cells, if piperine was still able to decrease cell proliferation. I hypothesized that piperine would inhibit B16F10 growth, and adding UV, a carcinogen, to B16F10 cells, would increase the growth rate but adding piperine on top of that will reduce that rate. B16F10 cells were cultured and upon reaching optimal confluence levels, were harvested and used for my performing of MTS (96-well) assays. The first MTS assay showed that without piperine, cell proliferation had an upward exponential trend from 100, 500, to 1000 cells. With piperine, cell proliferation levels dropped dramatically, no matter the cell density, to levels about the same as the vehicle blanks in the experiment, effectively killing B16F10 growth. Even at small concentrations of piperine (0.1 uM), growth of B16F10 cells was inhibited within 24 hours. The second MTS assay showed that piperine has less of an inhibitory effect when added after UV treatment than without UV.

Awards Won: