The Effect of the Citrus Flavonoid Naringin on Raji Burkitt Lymphoma Cells

Clark, Kendall

Yearly, approximately 65,000 are diagnosed with Non-Hodgkins Lymphoma, and of these new cases 20,000 of them result in death. Naringin, a citrus flavonoid, has shown promise in causing apoptosis of other cancers, mainly that of the cervix and breasts. The purpose of this experiment is to determine whether or not naringin will work as an activator for apoptosis in lymphoma (Raji) cell lines. It was hypothesized that the highest dosage of naringin, 500 micromolar (1:1 drug to media ratio), will cause the highest percentage of cell death. The first step in testing was to set up the media and naringin solutions. The first concentration was 500 micromolar, and from that point they decreased by half. So, the next well contained a 250 micromolar solution and the eighth and final well was approximately a 4 micromolar solution. The ninth well used contained a control with no naringin. The next step was to add 20 microliters of Raji cells to each of the nine wells. This process of media, drug, and cells combination was repeated for six rows of wells. The data was analyzed using pixel counting software Image J. This program was used to count the number of blue pixels in the wells of both trials. Blue was the color of the dye used as a stain. It was found using this method that both the 250 micromolar and 500 micromolar naringin solution caused apoptosis of the Raji cells. The 500 micromolar solution had the highest average of cell death, and supported the hypothesis.

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