Investigating the Effects of Vinblastine Sulfate Combined With Alpha Tocopheryl Succinate on A549 Lung Cancer Cells and Prostate Cancer Cells

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Vinblastine is a cytotoxic drug that has been proven to stunt the growth of cancer cells by binding to the mitotic spindle during anaphase. Studies have shown that Alpha Tocopheryl, a type of vitamin E, can protect cells from oxidative damage as well as inhibit the S phase of cell division, which in turn can block carcinogenesis, the initiation of cancer formation. However, both of these treatments have been shown to only work to a certain extent. Given that both of these treatments have anti-cancer properties, the researcher investigated whether or not the combination of the two treatments could produce a greater effect compared to when the treatments were used individually. The researcher hypothesized that the combination of the two treatments would prove to be more effective than the treatments when used individually. Prostate and lung cancer cell lines were split into groups that received no treatment, treatment with either Alpha Tocopheryl or Vinblastine, and treatment with both Alpha Tocopheryl and Vinblastine combined at different concentrations. Through cell counting using trypan blue, the researcher determined that the combination of the two treatments proved to be more successful than when the treatments were used individually, as the combination of treatments reduced the number of cells to 0 within 24 hours. The results suggest that a combination of alpha tocopheryl and Vinblastine could be used as a starting point for future novel cancer drug developments and as a potentially more efficient treatment for prostate and lung cancer patients.

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