The Effect of Psychoactive Substances on the Growth and Treatment of K562 Cell Lines

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Leukemia, a cancer of blood-forming tissues, is the 10th most common cancer. This study focused on the impact that cannabinoids (CBD) and nicotine had on the growth rate of K562 cell lines. It also looked at the impact that CBD and nicotine had on cell lines treated with Imatinib, a protein-inhibiting chemotherapy drug. Growth and cell viability were monitored through trypan blue assays. Through the research, it was found that CBD caused K562 cell lines to grow at a more rapid rate with or without Imatinib present. Also, when cells exposed to both Imatinib and CBD had higher vitality than those just exposed to Imatinib. Nicotine had very little effect on both growth rate and cell viability. More research needs to be completed to understand the full effect that CBD has on cell cultures and its treatability for different types of cancer.

Awards Won: