**Cannabidiol reduces cellular levels of β-catenin and BRAF in DLD-1 colorectal adenocarcinoma cells**

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Colorectal cancer (CRC), found in the intestinal tract, is a major contributor of cancer cases and cancer related deaths worldwide. Cancer is initiated and progresses through a variety of different mechanisms, including dysregulated signalling pathways. These pathways, such as the MAPK and Wnt/β-catenin pathways, that are involved in cell proliferation, migration, apoptosis etc. are often dysregulated in CRC. Cannabidiol (CBD) has previously been used in breast and CRC cell lines, causing cytotoxic effects such as apoptosis in these cells through various mechanisms. The effect of CBD on signalling pathways involved in CRC’s has not yet been investigated. In late-stage DLD-1 cells it was determined that CBD significantly decreases the cell viability from 77% to 2% as the concentration of CBD increases from 2μΜ to 10μM. 4μΜ CBD (IC50) limits the ability of these cells to migrate by 17% over an 8-hour treatment period. Cellular levels of BRAF and β-catenin was also reduced by 59% and 48% after 8 hours of treatment with 4μM of CBD. This significant reduction in BRAF, due to inhibition or reduced gene transcription, could possibly contribute to the reduction in the ability of these CRC cells to migrate. The reduction of β-catenin can be due to CBD facilitating an increased β-catenin degradation or a decrease in the transcription of β-catenin, which could potentially be involved in the increased levels of apoptosis observed. Future studies can include using different cell lines (early-, mid-, and noncancerous) and gene/protein expression studies to determine how CBD affects these properties.

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