***In-silico* prediction of Cannabidiol as an inhibitor of the MAPK pathway in colorectal cancer**

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Colorectal cancer (CRC), found in the intestinal tract, is a major contributor of cancer cases as well as cancer-related deaths worldwide. Cancer, irrespective of the type, is initiated and progresses through a variety of different mechanisms, including dysregulated signalling pathways. Several signalling pathways, such as the EGFR and MAPK pathways, which are involved in cell proliferation, migration, apoptosis, among others are often dysregulated in CRC. Cannabidiol (CBD) has previously been used *in vitro* in breast and CRC cell lines, causing cytotoxic effects such as apoptosis in these cells through various mechanisms however the effect of CBD on signalling pathways have not yet been determined. An i*n-silico* analysis is an important bioinformatic tool that can predict the results of various experiments, and during this study it was used to determine which proteins can bind to CBD as well as where CBD will bind to these proteins. The *in-silico* analysis predicted that CBD would act as an inhibitor of the EGFR and MAPK pathway through interacting with various important role players in this pathway. These proteins include EGFR, HRAS, KRAS, NRAS, BRAF, CRAF, MEK1/2, and ERK1/2 but the most intriguing proteins in this list are EGFR, KRAS, and BRAF. CBD is predicted to either prevent phosphate transfer to activate substrate proteins or to disrupt the catalytic site of the protein CBD binds to. Although these are merely predictions, future studies should aim to determine if CBD does indeed induce these effects on these proteins in CRC cell lines.

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