Cannabigerol, a non-psychotropic cannabinoid extract from *Cannabis sativa*, attenuates experimental colon carcinogenesis

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In addition to Δ^9-tetrahydrocannabinol, the plant *Cannabis sativa* contains non-psychotropic cannabinoids with potential therapeutic interest (Izzo et al., 2009). One of such compounds is cannabigerol (CBG), which has been recently shown to ameliorate experimental colitis in mice (Borrelli et al., 2013). Because it is well established the association existing between intestinal inflammation and colorectal cancer (Terzi? et al., 2010), in this study we have investigated the effect of CBG in experimental colon carcinogenesis.
In colorectal carcinoma (Caco-2) cells, we found that CBG exerted cytotoxic effects (evaluated by the MTT assay) via cannabinoid-receptor independent mechanisms and enhanced the 3/7 caspases activity detected by a chemiluminescent probe. The cytotoxic effect of CBG was specific for tumoral cells, since it was not observed in a human healthy colonic cell line. *In vivo*, CBG reduced i) the development of aberrant crypt foci, polyps and tumours induced in mice by the carcinogenic agent azoxymethane and ii) the growth of tumours induced by xenograft injection in nude mice. We conclude that CBG exerts beneficial effects in experimental colon carcinogenesis.

References

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