

## **Pharmacological insights into antioxidants against colorectal cancer: A detailed review of the possible mechanisms**

### **ABSTRACT**

Colorectal cancer (CRC) is ranked as the fourth most lethal and commonly diagnosed cancer in the world according to the National Cancer Institute's latest report. Treatment methods for CRC are constantly being studied for advancement, which leads for more clinically effective cancer curing strategy. Patients with prolonged chronic inflammation caused by ulcerative colitis or similar inflammatory bowel disease are known to have high risks of developing CRC. But at a molecular level, oxidative stress due to reactive oxygen species (ROS) is an important trigger for cancer. Hence, in recent years, exogenous antioxidants have been immensely experimented in pre-clinical and clinical trials, considering it as a potential cure for CRC. Significantly, potential antioxidant compounds especially derivatives of medicinal plants have received great attention in the current research trend for CRC treatment. Though antioxidant compounds seem to have beneficial properties for the treatment of CRC, there are also limitations for pure compounds to be tested clinically. Therefore, this review aims to delineate the pharmacological awareness among researchers on using antioxidant compounds to treat CRC and the measures taken to prove the effectiveness of such compounds as impending drug candidates for CRC treatment in modern medication.

**Keywords:** Colorectal cancer; Anticancer compounds; Drug discovery; Free radicals; Ulcerative colitis

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