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Good Practice in Traditional Chinese Medicine
Research in the Post-genomic Era



Good Practice in Traditional Chinese Medicine Research in the Post-genomic Era

induced by the alkylating agent methylnitrosourea (MNU). SO significantly decreased DNA damage induced by MNU in CO115 cells (colon cells). In conclusion, we showed that SO and the isolated compounds tested have chemopreventive activity, protecting colon cells against oxidative and alkylating DNA damage and stimulating DNA repair.

P5 - Quercetin enhances apoptosis induced by 5-fluorouracil in colorectal cancer cells through p53 modulation

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Colorectal tumors (CRC) with microsatellite instability (MSI) show resistance to chemotherapy with 5-fluorouracil (5-FU), the most widely used pharmacological drug for CRC treatment. The aim of this study was to evaluate the effects on apoptosis induction of co-incubation of the flavonoids, quercetin (Q) or luteolin (L), with 5-FU in two MSI human CRC derived cell lines (CO115 wt for p53 and HCT15 mutated for p53) by TUNEL assay and western blot. The dependence on the p53 status was assessed by small interference RNA (siRNA) in CO115 and in HCT116 wt and p53 knockout cells.

Our results demonstrate that CO115 is more sensitive to 5-FU than the p53 mutated HCT15. The combination treatment of 5-FU with L and Q increased apoptosis with a significant effect for Q in CO115. Apoptosis induction was caspase dependent in CO115 cells but not in HCT15 cells. Both flavonoids increased p53 expression in both cell lines, an effect particularly remarkable for Q. The significant apoptotic enhancement in CO115 incubated with Q plus 5-FU involved the activation of the apoptotic mitochondrial pathway. Knockdown of p53 by siRNA in CO115 cells and p53 knockout in HCT116 cells totally abrogated apoptosis induction by Q, demonstrating the dependence of apoptosis on p53 modulation by this natural flavonoid.

This study suggests the potential applicability of these phytochemicals for enhancement 5-FU efficiency in CRC therapy, especially Q in p53 wild-type tumors.

P6 - State of the art in animal studies of Chinese Herbal Medicine (CHM)

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Objectives: To analyze the state-of-the-art in animal studies of CHM (i.e. herbal mixtures of 3 or more herbs prepared following the principles of CHM)

