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Melanoma skin cancer: could chromone derivatives be efficient chemopreventors?

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Melanoma is a highly metastatic tumour and its incidence has ranked 5th and 6th among the most common cancer afflicting both men and women. Melanoma cells have a diminished antioxidant potential compared to normal melanocytes, which leads to an accumulation of ROS [1]. 1,4-benzopyrone heterocyclic compounds are widely distributed in plants and are reported to exhibit several biological roles, including antioxidant and free radical scavenging [2], displaying a variety of pharmacological properties such as anti-inflammatory and antitumour [3]. The present study aimed to assess the response of the melanotic human skin melanoma (A375) cell line to treatment with 8 different benzopyran derivatives (*eg.* fisetin, luteolin and quercetin) - in the concentration range 12.5 - 100μM, for 24, 48 and 72h incubation periods (using the MTT assay). Reversibility of the drug effect (after 3 days) was also tested. Concomitantly, similar experiments were carried out for non-neoplasic, non-immortalised, human foreskin fibroblasts (BJ).

The results thus gathered allowed to conclude that the chromone derivatives are promising chemopreventive and/or chemotherapeutic agents towards melanoma, while having no considerable adverse effect against healthy cells.

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