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Grape Pomace and Red Clover Extracts Modulate the Proliferative Response of Murine Melanoma Cells

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Abstract

Our experimental design is focused on a cellular screening on murine melanoma standardized line B16-F10, in order to reveal the cytotoxic profile correlated with anti-proliferative and pro-apoptotic effects of two vegetal extracts, alone and associated. The grape pomace is the residue from the winemaking process, an important source of polyphenolic compounds, Trifolium pratense extract (red clover), rich in isoflavones (genisteine, daidzeine, biochanine, formononetin), had previously proved impact in the estrogenic modulation of different cancer types. It has been proved through flow cytometry and spectrophotometry methods that grape pomace and red clover extracts are apoptosis inducers and anti-proliferative agents in murine melanoma cells. Furthermore their combinations inhibit melanoma progression. Their combination could be an adjuvant solution in melanoma therapy, raising the anti-tumour efficacy. This research is a step forward to sustain the proper capitalisation of winery waste as well as the red clover as medicinal herb, including their use as a part of new developed delivering systems (ex. Nanosystems).

Keywords: grape pomace, Trifolium pratense, melanoma, proliferation, apoptosis.