Feselol Enhances the Cytotoxicity and DNA Damage Induced by Cisplatin in 5637 Cells

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Z. Naturforsch. **66 c**, 555–561 (2011); received August 2, 2010/August 21, 2011

Transitional cell carcinoma (TCC), which is the most common type of bladder cancer, shows resistance to chemotherapeutic agents due to the overexpression of drug efflux pumps. In this study, the effects of feselol, a sesquiterpene coumarin extracted from *Ferula badrakema*, on cisplatin cytotoxicity were investigated in 5637 cells, a TCC subline. Cell viability and DNA lesion were evaluated by thiazolyl blue tetrazolium bromide and comet assays, respectively. Feselol had no significant cytotoxic effect in 5637 cells but at 32 μg/mL it increased the cytotoxicity of 1 μg/mL cisplatin by 37% after 24 h. Furthermore, the comet assay revealed that DNA damage induced by cisplatin in 5637 cells is enhanced by 31% when used in combination with feselol. Therefore, feselol might be considered as an effective reversal agent for future *in vivo* and clinical studies.

Key words: Feselol, Cisplatin, 5637 Cells