

## Cytotoxicity of vincristine on the *0637* cell line is enhanced by combination with conferone

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### Abstract

Bladder cancer is one of the most common cancers worldwide, with the highest incidence in industrialized countries. There are three major histological subtypes of bladder cancer: transitional cell carcinoma (TCC) (>90%), squamous cell carcinoma (<10%) and adenocarcinoma (1-2%). The present study was carried out to assess the effects of conferone, a sesquiterpene coumarin isolated from *Ferula badrakema*, on a TCC subline, *0637* cells. In order to test the effects of conferone, *0637* cells were treated with different concentrations (16, 32, 64, 128 µg/ml) of conferone. The results indicated that conferone did not have any significant cytotoxic effect on these neoplastic cells. To determine the combining effects, the cells were cultured in the presence of different concentrations of conferone (16, 32, 64, 128 µg/ml) and vincristine (30, 40, 50 µg/ml) in combination. The morphological changes were then observed and cytotoxicity effects were studied using the MTT assay 24, 48 and 72 h following drug administration. The cells were more rounded and granulated after treatments with both drugs in comparison to vincristine only. The results of the MTT assay confirmed the morphological observations. After 48 h of combined treatment with 40 µg/ml vincristine and 16 µg/ml conferone, the cytotoxicity of vincristine was increased by 22.6%. © 2009 Verlag der Zeitschrift für Naturforschung, Tübingen.

### Reaxys Database Information

### Author keywords

*0637* Cell Line; Conferone; Vincristine

### Indexed Keywords

**Species Index:** *Ferula*; *Foeniculum vulgare*

**EMTREE drug terms:** conferone; coumarin derivative; vincristine

**EMTREE medical terms:** adenocarcinoma; article; bladder tumor; cell division; cell survival; chemistry; culture technique; drug effect; fennel; human; isolation and purification; methodology; pathology; squamous cell carcinoma; transitional cell carcinoma; tumor cell line

**MeSH:** Adenocarcinoma; Carcinoma, Squamous Cell; Carcinoma, Transitional Cell; Cell Culture Techniques; Cell Division; Cell Line, Tumor; Cell Survival; Coumarins; *Ferula*; Humans; Urinary Bladder Neoplasms; Vincristine  
*Medline is the source for the MeSH terms of this document.*

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