

Identification of a prostate inhibitory substance in a pollen extract.

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Recently, much attention has focused on the treatment of BPH with the pollen extract, Cernilton. The present investigation was designed to identify the active component in this agent which might be responsible for the symptomatic relief of BPH as previously reported. Sequential purification of the active component present in the pollen extract was carried out by a combination of dialysis, gel filtration, and reverse phase chromatography. To monitor the biological activity of each of the purified fractions, a biological assay employing the human prostate cancer cell line DU145 was undertaken. While we have identified a number of constituent components in the pollen extract, only one fraction designated V-7 (FV-7) maintained a strong inhibitory effect on the growth of DU145 cells. The inhibition was time- and dose-dependent, and the concentrations of FV-7 required to reduce the cell numbers by 50% (IC₅₀) after 2 days of exposure was 5 micrograms/ml. FV-7 was also inhibitory towards the primary culture of prostate stroma and epithelial cells, with the stroma/fibroblast showing greater sensitivity towards the HPLC-purified component. However, it should be noted that this inhibitory activity measured in the primary culture cells was only achieved at higher concentrations of FV-7. Preliminary characterization of the active ingredient identified FV-7 as DIBOA which is a cyclic hydroxamic acid. FV-7 and DIBOA induce similar inhibitory effects on the growth of DU145 cells.

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