

The compound 14-keto stypodiol diacetate from the algae *Styopodium flabelliforme* inhibits microtubules and cell proliferation in DU-145 human prostatic cells

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We investigated the effects of the drug 14-keto-stypodiol diacetate (SDA) extracted from the seaweed product *Styopodium flabelliforme*, in inhibiting the cell growth and tumor invasive behavior of DU-145 human prostate cells. In addition, the molecular action of the drug on microtubule assembly was analyzed. The effects of this diterpenoid drug in cell proliferation of DU-145 tumor cells in culture revealed that SDA at concentrations of 5 μ M decreased cell growth by 14% while at 45 μ M a 61% decrease was found, as compared with control cells incubated with the solvent but in the absence of the drug. To study their effects on the cell cycle, DU-145 cells were incubated with increasing concentrations of SDA and the distribution of cell-cycle stages was analyzed by flow cytometry. Interestingly, the data showed that 14-keto-stypodiol diacetate dramatically increased the proportion of cells in the G2/M phases, and decreased the number of cells at the S phase of mitosis, as compared with app