Effects of γ-oryzanol on the Lines of Androgen-Unresponsive Prostate Cancer

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Prostate cancer is the second most common cancer in men. Several evidences showing that γ-oryzanol, a phytosteryl ferulate mixture extracted from rice bran oil has anti-proliferative effects on cancer cell lines. Our objective was to evaluate the effects of the γ-oryzanol and its component (ferulic acid and β-sitosterol) on prostate cancer cell lines, PC3 and DU145, growth and viability. Sterols were mixed in the media with a sterol carrier (2-hydroxypropyl)-β-cyclodextrin (β-CD) and supplied to the cells as complexes. PC-3 and DU145 cells were treated with γ-oryzanol, ferulic acid and β-sitosterol for 24h or 48 h, followed by trypan blue dye exclusion and MTT assays to measurements of cytotoxicity and proliferation. Our results demonstrated that γ-oryzanol, ferulic acid and β-sitosterol significantly inhibit cell proliferation. After 48h treatment with 16 μM of γ-oryzanol, DU145 and PC3 proliferation decreased approximately 40.6% and 58.4%, respectively. Treatment for 24 h with 16 μM of β-sitosterol, ferulic acid and β-sitosterol + ferulic acid promotes a cell growth inhibition of 52.5%, 59.4% and 49.5%, respectively. Gamma-oryzanol, β-sitosterol and ferulic acid at the doses and times used in this study were not cytotoxic in these cells. This study demonstrated that γ-oryzanol and its components have relatively similar growth inhibitory effects on prostate cancer cell lines.

Palavras-chave: PC3, DU145, γ-oryzanol, prostate cancer
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