



Abstract

Cytotoxic Effects of Functional Foods *Momordica charantia* L. and *Lycium barbarum* L. Extracts on Prostate Cancer Cells [†]

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Abstract: Prostate cancer is a growing health problem around the world. Although there are different therapeutic methods, none of them possessed complete efficacy up to now. Therefore, discovery of novel anti-cancer drugs is important. Bitter melon (*Momordica charantia* L.) and Goji berry (*Lycium barbarum* L.) as functional foods may prevent prostate cancer. In this study, we investigated the effects of ripe and unripe fruit (peel and pulp), seed and aril extracts of bitter melon and also black and red fruit extracts of *L. Barbarum* on cancer cell viability. In vitro cytotoxicity activities of the extracts (0–150 µg/mL) against androgen dependent (LnCAP) and independent (PC-3) prostate cancer cell lines were screened by MTT assay. Our results reveal that, all tested extracts exhibited cytotoxic activity towards the investigated tumour cells and bitter melon seed extract was the most effective extracts having an IC₅₀ value of 14.7 µg/mL for LnCAP cells. The overall findings demonstrate that specially seed extract of bitter melon, could be a potential source of a new anti-cancer compound and serve as a possible drug against prostate cancer.

Keywords: Bitter melon; goji berry; cytotoxic activity



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