

Beta Sitosterol & Prostate Cancer

Von Holtz et al. demonstrated the mechanism apoptosis of prostate cancer cells with beta sitosterol, which is mediated through the activation of sphingomyelin cycle. Stabilized rice bran derivatives are the richest sources of beta sitosterol. The consumption of stabilized rice bran derivatives may be advantageous to prostate cancer patients.



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for von Holtz RL, Fink CS, Awad AB

Limits Preview/Index History Clipboard Details

About Entrez

Display Abstract Show: 20 Sort Send to Text

Text Version

Entrez PubMed

Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services

Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources

PubMed Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

1: Nutr Cancer. 1998;32(1):8-12.

[Related Articles, Links](#)

beta-Sitosterol activates the sphingomyelin cycle and induces apoptosis in LNCaP human prostate cancer cells.

von Holtz RL, Fink CS, Awad AB.

Department of Physical Therapy, Exercise, and Nutrition Sciences, State University of New York at Buffalo 14214-3000, USA.

Epidemiological evidence has shown that men consuming a low-fat, high-fiber diet containing high amounts of plant products have a lower risk of prostate cancer than men consuming a Western diet. One of the main differences between these two diets is the type of dietary fat, including dietary sterols. This study was undertaken to compare the effect of two dietary sterols on prostate cancer cells in vitro. beta-Sitosterol (SIT), the most common plant sterol, and cholesterol, an animal sterol, were compared for effect on LNCaP cell growth, differentiation, apoptosis, and sphingomyelin cycle intermediates. Cells were treated for up to seven days with sterols delivered by a cyclodextrin vehicle. Compared with cholesterol, SIT (16 microM) decreased growth by 24% and induced apoptosis fourfold, which was accompanied by cell rounding and a 50% increase in ceramide production. No effect was observed on differentiation as measured by prostate-specific antigen and prostatic acid phosphatase, although total acid phosphatase increased with SIT treatment for up to seven days. The results suggest that the decrease in cell number and increase in apoptosis associated with SIT treatment are mediated by activating the sphingomyelin cycle.

PMID: 9824850 [PubMed - indexed for MEDLINE]

Display Abstract Show: 20 Sort Send to Text