



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for

Limits Preview/Index History Clipboard Details

About Entrez

Display Abstract Show: 20 Sort Send to Text

Text Version

1: Carcinogenesis. 2001 Feb;22(2):351-6.

[Related Articles, Links](#)

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

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

Erratum in:

- Carcinogenesis 2001 May;22(5):831-3.

FREE full text article at
carcin.oupjournals.org

Inhibition of cellular transformation by berry extracts.

Xue H, Aziz RM, Sun N, Cassady JM, Kamendulis LM, Xu Y, Stoner GD, Klaunig JE.

Division of Toxicology, Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN, USA.

Recent studies have examined and demonstrated the potential cancer chemopreventive activity of freeze-dried berries including strawberries and black raspberries. Although ellagic acid, an abundant component in these berries, has been shown to inhibit carcinogenesis both in vivo and in vitro, several studies have reported that other compounds in the berries may also contribute to the observed inhibitory effect. In the present study, freeze-dried strawberries (*Fragaria ananassa*, FA) or black raspberries (*Rubus ursinus*, RU) were extracted, partitioned and chromatographed into several fractions (FA-F001, FA-F003, FA-F004, FA-F005, FA-DM, FA-ME from strawberries and RU-F001, RU-F003, RU-F004, RU-F005, RU-DM, RU-ME from black raspberries). These extracts, along with ellagic acid, were analyzed for anti-transformation activity in the Syrian hamster embryo (SHE) cell transformation model. None of the extracts nor ellagic acid by themselves produced an increase in morphological transformation. For assessment of chemopreventive activity, SHE cells were treated with each agent and benzo[a]pyrene (B[a]P) for 7 days. Ellagic acid, FA-ME and RU-ME fractions produced a dose-dependent decrease in transformation compared with B[a]P treatment only, while other fractions failed to induce a significant decrease. Ellagic acid, FA-ME and RU-ME were further examined using a 24 h co-treatment with B[a]P or a 6 day treatment following 24 h with B[a]P. Ellagic acid showed inhibitory ability in both protocols. FA-ME and RU-ME significantly reduced B[a]P-induced transformation only when co-treated with B[a]P for 24 h. These results suggest that a methanol extract from strawberries and black raspberries may display chemopreventive activity. The possible mechanism by which these methanol fractions (FA-ME, RU-ME) inhibited cell transformation appear to involve interference of uptake, activation, detoxification of B[a]P and/or intervention of DNA binding and DNA repair.

PMID: 11181460 [PubMed - indexed for MEDLINE]

Display Show: Sort Send to

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
[Department of Health & Human Services](#)
[Privacy Statement](#) | [Freedom of Information Act](#) | [Disclaimer](#)

Jan 12 2005 06:52:28