

[My Profile](#) [Log In](#)

[Home](#) / [Medicine and Healthcare](#) / [Oncology](#)

▶ [HOME](#)
 ▶ [ABOUT US](#)
 ▶ [CONTACT US](#)
 ▶ [HELP](#)



[International Journal of Cancer](#) **Volume 116, Issue 5 , Pages 793 - 798**

[e-mail](#) [print](#)

Published Online: 22 Apr 2005
 Copyright © 2005 Wiley-Liss, Inc., A Wiley Company

▶ [Save Title to My Profile](#) ▶ [Set E-Mail Alert](#)

[Go to the homepage for this journal to access trials, sample copies, editorial and author information, news, and more. ▶](#)

SEARCH All Content
 Publication Titles

[Advanced Search](#)
[CrossRef / Google Search](#)
[Acronym Finder](#)

SEARCH IN THIS TITLE

International Journal of Cancer

All Fields

SEARCH BY CITATION

Vol: Issue: Page:

▶ [Save Article to My Profile](#) ▶ [Download Citation](#) < [Previous Abstract](#) | [Next Abstract](#) >

Abstract | [References](#) | Full Text: [HTML](#), [PDF](#) (103k) | [Related Articles](#) | [Citation Tracking](#)

Cancer Therapy

The inhibitory effect of flaxseed on the growth and metastasis of estrogen receptor negative human breast cancer xenografts attributed to both its lignan and oil components

Linda Wang, Jianmin Chen, Lilian U. Thompson ^{*†}

Department of Nutritional Sciences, Faculty of Medicine, University of Toronto, Toronto, ON, Canada

email: Lilian U. Thompson (lilian.thompson@utoronto.ca)

* Correspondence to Lilian U. Thompson, Department of Nutritional Sciences, Faculty of Medicine, University of Toronto, 150 College St., Toronto, Ontario, Canada M5S 3E2

† Fax: +416-978-5882.

Funded by:

- Natural Sciences and Engineering Research Council of Canada
- Flax Council, Saskatchewan Flax Development Commission
- Program in Food Safety, University of Toronto

KEYWORDS

flaxseed • lignans • flaxseed oil • breast cancer • metastasis • MDA-MB-435

ABSTRACT

Our previous studies have shown that dietary flaxseed (FS) can reduce the growth and metastasis of human estrogen receptor negative (ER-) breast cancer in nude mice. The aims of our study were to determine (i) whether the tumor inhibitory effect of FS was due to its oil (FO), lignan secoisolariciresinol diglycoside (SDG), or both components, and (ii) whether the effect on tumor growth was related to increased lipid peroxidation. Athymic nude mice were orthotopically injected with ER- breast cancer cells (MDA-MB-435) and 8 weeks later were fed either the basal diet (BD) or BD supplemented with 10% FS, SDG, FO, or combined SDG and FO (SDG + FO) for 6 weeks. The SDG and FO levels were equivalent to the amounts in the 10% FS. Compared to the BD group, the tumor growth rate was significantly lower ($p < 0.05$) in the FS, FO, and SDG + FO groups, in concordance with decreased cell proliferation and increased apoptosis; however, these did not significantly relate to the lipid peroxidation, indexed as malonaldehyde (MDA), in the primary tumors. Lung metastasis incidence was reduced (16-70%) by all treatments, significantly in the FS and SDG + FO groups. The distant lymph node metastasis was significantly decreased (52%) only in the FO group. Although the total metastasis incidence was lowered

NOW AVAILABLE

The Cochrane Library – the world's best single source of evidence about the effects of healthcare – is now available on Wiley InterScience.

If you want the very best healthcare information designed to help you make informed choices about treatment options based on all the evidence available, [click here now.](#)

NOW AVAILABLE
The Journal of Pathology Backfile Collection (1892-1996)



(42%) significantly only in the SDG + FO group, all treatment groups did not differ significantly. In conclusion, FS reduced the growth and metastasis of established ER- human breast cancer in part due to its lignan and FO components, and not to lipid peroxidation. © 2005 Wiley-Liss, Inc.

Received: 13 December 2004; Accepted: 4 February 2005

DIGITAL OBJECT IDENTIFIER (DOI)

10.1002/ijc.21067 [About DOI](#)

Related Articles

- Find other [articles](#) like this in Wiley InterScience
- Find articles in Wiley InterScience written by any of the [authors](#)

Wiley InterScience is a member of CrossRef.



Fully searchable and live-linked with current web content, this backfile brings the complete contents of this top-tier journal—dating back to Volume 1, Issue 1—to your desktop. A one-time fee delivers ongoing access with no strings attached.

[Find out more](#)

[Request a Quote](#)

PUBLIC ACCESS INITIATIVE



See Wiley's policy regarding the PubMedCentral manuscript repository for NIH grant recipients

[Find out more](#)

SIGN UP NOW



Get select content from some of Wiley's leading publications delivered to your PDA — free!

[Sign up now](#)

ARTICLE REPRINTS



Need an article reprint?

Paper or electronic reprints are available for all articles published on Wiley InterScience. Inquiries can be submitted online.

[Find out more](#)

INTRODUCING



**The
International
Journal of
Medical
Robotics and
Computer
Assisted
Surgery**

Presenting the latest developments in robotics and imaging technologies for medical applications. Covering the cooperative technologies of medical robotics and computer assisted surgery, including X-ray, MRI and CAT scan, that can be used to construct accurate 3D models of the patients body and internal organs.

[MORE](#)

NOW AVAILABLE



Access full-text content without a subscription. Now available for:

- **Journals**
- **OnlineBooks**
- **Reference Works**
- **The Cochrane**

Library **NEW**

[Find out more](#)

[About Wiley InterScience](#) | [About Wiley](#) | [Privacy](#) | [Terms & Conditions](#)

[Copyright](#) © 1999-2005 [John Wiley & Sons, Inc.](#) All Rights Reserved.