電子ジャーナルで論文を探しみよう! -PubMed-

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>キーワード:「fucoidan」「cancer」

検索結果の画面にAbstract(抄録)を 表示してみよう

PubMed

- 医学系、生命科学系学術雑誌に掲載された 論文を検索できる
- ・1946年~現在まで収録
- ・無料のデータベースなのでどこからでも利用できる。北大図書館の「データベース一覧」 から利用すると論文の本文へのリンクも表示できる。

キーワード入力のポイント

- 1. 曖昧な語の検索:前方一致検索=語尾に*をつける
 例) librar* → library, librarian, librarians, …
- 2. 熟語の検索:ダブルクォーテーション「"」でくくる
 例) "fish oil" "lung cancer"
- 著者名の検索:姓+名+ミドルネーム 名とミドルネームはイニシャルのみ 例)Smith R / suzuki a
 ※2002年以降出版の文献はフルネームで検索可能
- 4. 雑誌名の検索:完全な雑誌名、略誌名のいずれからも検索
 例)「CBP」でも「Comparative Biochemistry and Physiology」でも同じ結果
- 5. キーワードや条件の掛け合わせ(論理演算)

「AND」(両方の語を含む)「OR」(どちらかの語を含む)「NOT」(前者 を含むが後者を含まない)などでつなぐ(スペースで区切ると自動的 にAND検索、入力は大文字で)

PubMedで調べる1 目標④: キーワード:「fucoidan」+「cancer」



PubMedで調べる2

目標④: キーワード:「fucoidan」+「cancer」

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Circulation (18)	Non-Small-Cell Lung Cancer. N Engl J Med. 2018.	
Cochrane Database Syst Rev (5)	Innate immune memory in the brain shapes neurological	
J Biol Chem (4)	disease hallmarks. Nature. 2018.	
J Clin Oncol (2)	Intra-tumour diversification in colorectal cancer at the single-cell	

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PubMedで調べる4

目標④: キーワード:「fucoidan」+「cancer」



PubMedで調べる5

目標④: キーワード:「fucoidan」+「cancer」

Format: Summary - S		収録誌の	情報、DOI			
Format	Biol Pharm Bull, 2019;42(3):442-447. doi: 10.1248/bpb.b18-00777.					
Summary	Fucoidan Promotes Apoptosis and Inhibits EMT of Breast C	Cancer Cells.		-		
Summary (tavt)	He X ^{1,2,3} , Xue M ⁴ , Jiang S ⁵ , Li W ⁴ , Yu J ² , Xiang S ⁴ .	「話	題、著者名			
Abstract Abstract (tout)	Author information					
	Abstract					
© XML	Fucoidan is an active component of seaweed, and could inhibit proliferation and induc	e apoptotic cell				
PMID List	death in several tumor cells. However, the function of fucoidan in breast cancer is larg					
	PI the present study, we evaluated the anti-cancer potential of fucoidan in human breast					
PMID: 29600526	cells. Adult Sprague-Dawley rats were randomized to receive fucoidan (200 or 400 mg					
	per day) or normal saline via gastric gavage for 3 consecutive days. Serum samples w					
	these rats, and used for subsequent experiments to examine the potential effects in M	ICF-7 cells. Cell				
	viability was determined using a 3-(4,5-dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazoliu	um bromide (MTT)				
	assay. Apoptosis was examined with Hoechst33258 staining and flow cytometry. Cell migration and					
	invasion were measured by wound scratch assay and Transwell assay, respectively. Western blot and					
	enzyme-linked immunosorbent assay (ELISA) were used to examine the expression of secretory					
	E-cadherin and matrix metalloproteinase-9 (MMP-9). Conditioned serum from fucoidal	n-treated rats	ブフレニクト(+	小纪)		
	E-cadherin and matrix metalloproteinase-9 (MMP-9). Conditioned serum from fucoidan-treated rats significantly suppressed cell proliferation and enhanced apoptosis. Cell migration and invasion wer					
	also significantly decreased. Observed effects of conditioned serum were associated with upregula $\mathcal{E} + - \mathcal{D} - \mathcal{F}$					
	of E-cadherin and downregulation of MMP-9. Conditioned serum of rats treated with fucoidan could					
	inhibit the proliferation and promote apoptosis of MCF-7 cells. Cell invasion and migration were					
inhibited, possibly via decreased epithelial-mesenchymal transition (EMT) process. Fucoidan may be a						
	promising therapeutic agent for human breast cancers.					
PMIDとレコード状態	KEYWORDS: apoptosis; breast cancer cell; drug serum; epithelial-mesenchymal trans					
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Biol Pharm Bull. 42, 442-447 (2019)

Vol. 42, No. 3

ucoidan Promotes Apoptosis and Inhibits EMT of Breast Cancer Cells

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chool of Madicine. Shandong University: Jiman, Shandong 230012. China: *Department of Radiation Oncology. andong Cancar Haspatai (Afliated in Shandong University), Shandong Academy of Medical Sciences; 440 Jupa ed. Jinan, Shandong 216117, Cimar Doparment of Radvation Oncology, Affilietad Hespital of Ongdon University ideal Chilege Ongdon, Shandong 20011, Cimar "Department of Stockentury and Molecular Biology, Batte dical College, Qingdeo University of Medicine; 38 Dengthou Road, Qingdao, Shandong 266021, China: and 'The Biated Hospital of Qingdao University; Qingdao, Shandong 266003, China. ceived October 5, 2018: accepted November 25, 2018

Fucoidan is an active component of seawood, and could inhibit preliferation and induce apoptotic cell death in several tumor cells. However, the function of fucoidan in breast cancer is largely unknown. In the present study, we evaluated the anti-cancer potential of fucoidan in human breast cancer MCF-7 cells. Adult Sprague-Dawley rats were randomized to receive fuccidan (200 or 400 mg/kg-body weight per day) er normal saline vie gustric gavage for 3 consecutive days. Serum samples were prepared fram idese rational sale for subsequent experiments to examine the potential effects in MCF-7 cells. Cell viability was destrumined using a 3-(4,5-dimetry)-2-this203()-2,5-dimetry)-22-thermale using monife(MTT) assay. Apaptos was examined with Hoechst33258 staining and flow cytometry. Cell migration and invasion were measured by wound scratch assay and Transwell assay, respectively. Western blot and enzyme-linked immunosorbent assay (FLISA) were used to examine the expression of secretory E-cadherin and matrix metalloproteinase-9 (MMP-9). Conditioned serum from fucoidan-treated rats significantly suppressed cell proliferation and en-hanced apoptoris. Cell migration and invasion were also significantly decreased. Observed effects of conditioned serum were associated with upregulation of E-cadherin and downregulation of MMP-9. Conditioned serum of rats treated with fuccidan could inhibit the proliferation and promote apoptosis of MCF-7 cells. Cell invasion and migration were inhibited, possibly via decreased epithelial-mesenchymal transition (EMT) process. Fucoidan may be a promising therapeutic agent for human breast cancers

Key words breast cancer cell; fucoidan; drug serum; apoptosis; epithelial-mesenchymal transition

INTRODUCTION

Fuccidan is composed of t-fucose, sulfate groups and other However, as a polytaccharide molecule, it is difficult to antiviral and antitumor activities.120

fined molecular subgroups, more than one-and-half million bated in vitro with MCF-7 cells to study the effect of fucoidan new breast cancer cases are reported worldwide each year.³⁻³⁾ on the proliferation, migration and apoptosis of breast cancer Unfortunately, most chemotherapeutic agents and hormonally cells. directed drugs for breast cancer are designed to broadly target

common deregulated mechanisms within breast cancer cells. MATERIALS AND METHODS Many healthy tissues are also affected and natients often experience clinically significant toxic effects. Subsequent studies demonstrated that fuccidan could induce cell cycle arrest in a of Chinese Academy of Sciences, Shanghai, China) were chemoresistant non-small-cell bronchooulmonary carcinoma maintained in Dulbecco's modified Easle's medium (DMEM) could significantly suppress call viabulity and promote apo-program of cancer cells.³⁸ Fuccidan also has beneficial effects vine serum (FBS; Gibco; Thermo Fisher Scientific, Waltham, as it can resist toxicity associated with chemoradiotherapy.9 MA, U.S.A.) and 100 U'mL penicillin/0.1 mg/mL streptomycin Previous studies have demonstrated that fucoidan induced at 37°C in a humidified atmosphere containing 5% CO,

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widely spread in resources, and in recent years has drawn intense research interests

biologically active components such as p-stylose, p-mannose, purify the fucoidan monomer, and the effect of the crude p-galactore, t-thannose, arabinose, glucose, n-glucuronic extract is not very precise when tested in vitro. The effects of acid and acetyl groups. It is primarily extracted from brown funcidan on the onset and progression of human beaut cancer seaweeds and has been intensively studied due to itt diverse are still unelucidated. Therefore, in the present study, serum biological properties, including antithrombotic, anticoagulant, samples were obtained from female Sprague-Dawley (SD) rats, which were fed by fucoidan or an equivalent volume of Breast cancer is a heterogeneous disease with several de- normal saline, respectively. Serum from each group was incu-

Cells Breast cancer MCF-7 cells (Shanghai Life Science Accumulating evidence has indicated that fucoidan high glucose (0.45g/L p-glucose; Hyclone Biotechnology, Bei-

apoptosis of human breast cancer MCF-7 cells via activating caspase-8.¹⁰ In addition, brown algae containing fucoidan is weighing 120-160g each; Shandong Lukang Pharmaceutical Co., Qingdao, China) were housed in a standard animal facility with free access to drinking water and natural light. The

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PubMedの調べ方捕足1



PubMedの調べ方補足2 <MeSHを使った検索>

MeSHとは米国国立医学図書館(NLM)が作成するシソーラス<u>Me</u>dical <u>Subject</u> <u>Headings</u>(医学主題見出し)の略称

シソーラス・・・様々な医学用語を統一して上位語・下位語を整理した 統制語辞書

例えば

癌について調べたい・・・ 論文中の表現 cancer, tumor, neoplasm ・・・様々な表現が存在
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