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Fucoxanthin: A marine carotenoid has anticancer activities and apoptosis-inducing effect (a review) (Conference Paper)

Noviendri, D.^a ✉, Hasrini, R.F.^b, Taher, M.^c

^aResearch Center for Marine and Fisheries Product Processing and Biotechnology, Ministry of Marine Affairs and Fisheries, Republic of Indonesia, K.S Tubun Petamburan VI, Central Jakarta, 10260, Indonesia

^bCenter for Agro-Based Industry, Ministry of Industry Affairs, Republic of Indonesia, Ir. H. Juanda 11, West Java, Bogor, 16122, Indonesia

^cDepartment of Pharmaceutical Technology, Faculty of Pharmacy, International Islamic University Malaysia, Kuantan, Malaysia

Abstract

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Fucoxanthin, a natural xanthophyll carotenoid, is generally found in brown seaweeds, such as *Sargassum duplicatum*, *Turbinaria turbinata*, *Padina australis*, *Undaria pinnatifida*, and *Laminaria japonica*; and microalga or diatom such as *Phaeodactylum tricorutum*, *Isochrysis galbana* and *Odontella sinensis*. Fucoxanthin is a marine xanthophyll exhibiting several anticancer activities, such as anticancer activities against leukemia, prostate, cervical, hepatoma, colon, and lung cancer. Cancer disease is frequently considered to be a disease of the cell cycle. Then, apoptosis is a dominant form of cell death with particular relevance to cancer, characterized initially by a series of stereotypic morphological changes, such as condensation and fragmentation of chromatin shrinking of cytoplasmic (cell shrinkage), a decrease in cell volume and alterations to the plasma membrane, mitochondrial depolarization, membrane blebbing, and cell packaging into apoptotic bodies or formation of apoptotic bodies. In general, there are four techniques for the detection of apoptosis, namely: (1) morphological changes analysis using an inverted microscope, scanning electron microscope, fluorescent microscope, (2) gel electrophoresis, (3) immunohistochemistry (e.g., analysis of caspase-3), and (4) flow cytometry. © Published under licence by IOP Publishing Ltd.

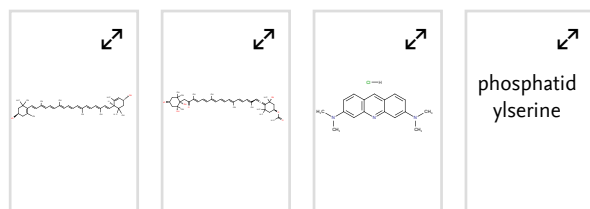
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- 1 Kumar, S.R., Hosokawa, M., Miyashita, K.
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(2013) *Marine Drugs*, 11 (12), pp. 5130-5147. Cited 114 times.

<http://www.mdpi.com/1660-3397/11/12/5130/pdf>

doi: 10.3390/md11125130

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- 2 Li, Y., Liu, Y., Wang, Y., Yu, Y., Zeng, Y., Li, L., Wang, L.
The bioactivity of fucoxanthin from *Undaria pinnatifida* in vitro [\(Open Access\)](#)

(2016) *American Journal of Biochemistry and Biotechnology*, 12 (2), pp. 139-148. Cited 2 times.

<http://thescipub.com/pdf/10.3844/ajbbsp.2016.139.148>

doi: 10.3844/ajbbsp.2016.139.148

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- 3 Ha, A.W., Na, S.J., Kim, W.K.
Antioxidant effects of fucoxanthin rich powder in rats fed with high fat diet [\(Open Access\)](#)

(2013) *Nutrition Research and Practice*, 7 (6), pp. 475-480. Cited 30 times.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3865270/pdf/nrp-7-475.pdf>

doi: 10.4162/nrp.2013.7.6.475

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- 4 Kawee-ai, A., Kuntiya, A., Kim, S.M.
Anticholinesterase and antioxidant activities of fucoxanthin purified from the microalga *Phaeodactylum tricornutum* [\(Open Access\)](#)

(2013) *Natural Product Communications*, 8 (10), pp. 1381-1386. Cited 27 times.

<http://members.naturalproduct.us/Secure/ViewDoc.aspx?docId=5892>

doi: 10.1177/1934578x1300801010

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- 5 Sujatha, M, Suganya, P, Pradeepa, V
(2017) *Int. J. Innov. Res. Sci. Eng. Technol*, 6, p. 16734. Cited 6 times.