

# Omega-3 kills cancer cells

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Docosahexanoic acid (DHA), an omega-3 fatty acid found in fish oils, has been shown to reduce the size of tumours and enhance the positive effects of the chemotherapy drug cisplatin, while limiting its harmful side effects. The rat experiments, described in BioMed Central's open access journal *Cell Division*, provide some support for the plethora of health benefits often ascribed to omega-3 acids.

Professor A. M. El-Mowafy led a team of researchers from Mansoura University, Egypt, who studied DHA's effects on solid tumours growing in mice, as well as investigating how this fatty acid interacts with cisplatin, a chemotherapy drug that is known to cause kidney damage. El-Mowafy said, "DHA elicited prominent chemopreventive effects on its own, and appreciably augmented those of cisplatin as well. Furthermore, this study is the first to reveal that DHA can obliterate lethal cisplatin-induced nephrotoxicity and renal tissue injury."

DHA is an omega-3 fatty acid that is commonly found in cold-water fish oil, and some vegetable oils. It is a major component of brain gray matter and of the retina in most [mammalian species](#) and is considered essential for normal neurological and cellular developments. According to the authors, "While DHA has been tentatively linked with protection against cardiovascular, neurological and neoplastic diseases, there exists a paucity of research information, in particular regarding its interactions with existing chemotherapy drugs". The researchers found that, at the molecular level, DHA acts by reducing leukocytosis (white blood cell accumulation), systemic inflammation, and oxidative stress - all processes that have been linked with tumour growth.

El-Mowafy and his colleagues have called for greater deployment of omega-3 in the fight against cancer. They write, "Our results suggest a new, fruitful drug regimen in the management of solid tumors based on combining cisplatin, and possibly other chemotherapeutics, with DHA".

More information: Chemopreventive and renal protective effects for docosahexaenoic acid (DHA): implications of CRP and lipid peroxides, M E Elmesery, M M Algayyar, H A Salem, M M Darweish and A M El-Mowafy, *Cell Division* (in press), [www.celldiv.com/](http://www.celldiv.com/)

Source: BioMed Central ([news](#) : [web](#))

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