

Disease type/risk	First Author	Study Title Complete Citation	Date	Abstract	Human	Human cell	Animal	Animal cell
Cancer	Andlauer, W.	Andlauer, W.; Fürst, P., Nutraceuticals: a piece of history, present status and outlook. <i>Food Research International</i> 2002 , 35, (2-3), 171-176.	2002	The term "nutraceutical" was coined in 1989 by the Foundation for Innovation in Medicine (New York, US), to provide a name for this rapidly growing area of biomedical research. A nutraceutical was defined as any substance that may be considered a food or part of a food and provides medical or health benefits including the prevention and treatment of disease. Nutraceuticals may range from isolated nutrients, dietary supplements and diets to genetically engineered "designer" foods, herbal products and processed products such as cereals, soups and beverages. Doubtlessly, many of these products possess pertinent physiological functions and valuable biological activities. The ongoing research will lead to a new generation of foods, which will certainly cause the interface between food and drug to become increasingly permeable. The present accumulated knowledge about nutraceuticals represents undoubtedly a great challenge for nutritionists, physicians, food technologists and food chemists. Public health authorities consider prevention and treatment with nutraceuticals as a powerful instrument in maintaining health and to act against nutritionally induced acute and chronic diseases, thereby promoting optimal health, longevity and quality of life.				
	Beekwilder, J.	Beekwilder, J.; Hall, R. D.; de Vos, C. H., Identification and dietary relevance of antioxidants from raspberry. <i>Biofactors</i> 2005, 23, (4), 197-205.	2005	In this paper we review the current literature on antioxidants from fruit of red raspberry (<i>Rubus idaeus</i>) and place these in context concerning what is known from other food species. The review concentrates on the methods of antioxidant testing, the diversity of antioxidants in raspberry, effects of ripeness, cultivar, storage and processing techniques, and the bioavailability of raspberry antioxidants in humans after eating the fruit. It is clear that raspberry, like several other fruits and vegetables such as tomato, strawberry, kiwi and broccoli, represents a valuable contrasting source of potentially healthy compounds and can represent an important component of a balanced diet.				

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	D'Amico, E.	D'Amico, E.; Perrotta, G., Genomics of berry fruits antioxidant components. Biofactors 2005, 23, (4), 179-87.	2005	Reactive oxygen and nitrogen metabolites, which are side products of cell metabolism, can produce a lot of damage in biological macromolecules and tissues, producing a number of chronic illnesses. On the other hand, antioxidant metabolites usually accumulated in fruits and vegetables can provide an effective protection by neutralizing these reactive molecules. Among comestible vegetables, berry fruits are considered one of the richest sources of antioxidant metabolites; hence, they represent a good model for molecular and biochemical investigations about the biosynthesis and the functional role of antioxidants in plants. This review illustrates how recent developments in the fields of genomics and bioinformatics can provide powerful tools to better understand the molecular mechanisms that trigger biosynthesis and accumulation of antioxidant metabolites in berries.				
	Halvorsen, B. L.	Halvorsen, B. L.; Carlsen, M. H.; Phillips, K. M.; Bohn, S. K.; Holte, K.; Jacobs, D. R., Jr.; Blomhoff, R., Content of redox-active compounds (ie, antioxidants) in foods consumed in the United States. Am J Clin Nutr 2006, 84, (1), 95-135.	2006	BACKGROUND: Supplements containing ascorbic acid, alpha-tocopherol, or beta-carotene do not protect against oxidative stress-related diseases in most randomized intervention trials. We suggest that other redox-active phytochemicals may be more effective and that a combination of different redox-active compounds (ie, antioxidants or reductants) may be needed for proper protection against oxidative damage. OBJECTIVE: We aimed to generate a ranked food table with values for total content of redox-active compounds to test this alternative antioxidant hypothesis. DESIGN: An assay that measures the total concentration of redox-active compounds above a certain cutoff reduction potential was used to analyze 1113 food samples obtained from the US Department of Agriculture National Food and Nutrient Analysis Program. RESULTS: Large variations in the content of antioxidants were observed in different foods and food categories. The food groups spices and herbs, nuts and seeds, berries, and fruit and vegetables all contained foods with very high antioxidant contents. Most food categories also contained products almost devoid of antioxidants. Of the 50 food products highest in antioxidant concentrations, 13 were spices, 8 were in the fruit and vegetables category, 5 were berries, 5 were chocolate-based, 5 were breakfast cereals, and 4 were nuts or seeds. On the basis of typical serving sizes, blackberries, walnuts, strawberries, artichokes, cranberries, brewed coffee, raspberries, pecans, blueberries, ground cloves, grape juice, and unsweetened baking chocolate were at the top of the ranked list. CONCLUSION: This ranked antioxidant food table provides a useful tool for investigations into the possible health benefit of dietary antioxidants.				

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	Quideau, S.	Quideau, S.; Feldman, K. S., Ellagitannin Chemistry. Chem Rev 1996, 96, (1), 475-504.	1996	No abstract				
	Robards, K.	Robards, K.; Antolovich, M., Analytical chemistry of fruit bioflavonoids - A review. Analyst 1997, 122, (2), R11-R34.	1997	No abstract				

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	Sangwan, N. S.	Sangwan, N. S.; Shanker, S.; Sangwan, R. S.; Kumar, S., Plant-derived products as antimutagens. Phytotherapy Research 1998, 12, (6), 389-399.	1998	Higher plants synthesize a myriad of structurally varied biologically active secondary metabolites. These compounds have been subjected to wide experimental scrutiny for various therapeutic potentials. In this review, the promise of these secondary phytochemicals as natural antimutagens has been focused upon. The compounds belonging to various chemical classes which have until now, been isolated and characterized with potential antimutagenicity are described. Besides making an extensive survey of structurally well characterized antimutagenic agents of the plant kingdom, antimutagenicity screening results of extracts of edible plants such as cereals, pulses, vegetables, oil-seeds and other health and tonic herbs reported up to date are reviewed.				
	Trosko, J. E.	Trosko, J. E., Dietary modulation of the multistage, multimechanisms of human carcinogenesis: effects on initiated stem cells and cell-cell communication. <i>Nutr Cancer</i> 2006, 54, (1), 102-10.	2006	Diet can influence the risk to cancer in both negative and positive ways. Worldwide, more than 10 million persons develop cancer annually. Diet could prevent many cancers. Carcinogenesis is a multistage, multimechanism process, consisting of "initiation," "promotion," and "progression" phases. Although diet could affect each phase, an efficacious strategy for dietary chemoprevention would be intervention during the promotion phase. The tumor-promotion process requires sustained exposure to agents that stimulate the growth and inhibition of apoptosis of initiated cells in the absence of antipromoters. Chronic inflammation has been associated with the promotion process. The mechanism affecting the promotion process appears to be the inhibition of cell-cell communication between normal and initiated cells. Most, if not all, tumor-promoting agents and conditions, reversibly, inhibit cell-cell communication, whereas antipromoters, antioxidants, and anti-inflammatory agents have been shown to ameliorate the effects of tumor promoters on cell-cell communication. Additionally, adult stem cells are hypothesized to be the target cells for initiating the carcinogenic process. A new paradigm has been presented that postulates the first function of the carcinogenic process is to block the "mortalization" of a normal, "immortal" adult stem cell rather than the induction of "immortalization" of a normal mortal cell.				

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	Vainio, H.	Vainio, H.; Weiderpass, E., Fruit and vegetables in cancer prevention. <i>Nutr Cancer</i> 2006 , 54, (1), 111-42.	2006	Our aim was to review the epidemiological literature on possible cancer-preventive effects of the consumption of fruits and vegetables in humans, to quantify the effect of high versus low consumption of fruits and vegetables, and to give an overall assessment of the existing evidence. We based our work on an expert meeting conducted by the International Agency for Research on Cancer in 2003. A qualitative reading and evaluation of relevant articles on the cancer-preventive effect of the consumption of fruits and vegetables was made followed by the calculation of the mean relative risk and range for cohort and case-control studies separately. The possible population-preventable fraction for modifying diet in relation to fruit and vegetable consumption was calculated as well as an overall statement about the degree of evidence for the cancer-preventive effect of fruit and vegetable consumption for each cancer site. There is limited evidence for a cancer-preventive effect of the consumption of fruits and vegetables for cancer of the mouth and pharynx, esophagus, stomach, colon-rectum, larynx, lung, ovary (vegetables only), bladder (fruit only), and kidney. There is inadequate evidence for a cancer-preventive effect of the consumption of fruits and vegetables for all other sites. Applying this range of risk difference to the range of prevalence of low intake, the preventable fraction for low fruit and vegetable intake would fall into the range of 5-12%. It is important to recognize that this is only a crude range of estimates and that the proportion of cancers that might be preventable by increasing fruit and vegetable intake may vary beyond this range for specific cancer sites and across different regions of the world.				