

1 August 2004

CARIG Bibliography

- Anonymous (2003) Lycopene. Monograph. *Altern.Med.Rev.* 8: 336-342.
- Abraham, K., Muller, C., Gruters, A., Wahn, U. & Schweigert, F. J. (2003) Minimal inflammation, acute phase response and avoidance of misclassification of vitamin A and iron status in infants--importance of a high-sensitivity C-reactive protein (CRP) assay. *Int.J.Vitam.Nutr.Res.* 73: 423-430.
- Alberg, A. (2002) The influence of cigarette smoking on circulating concentrations of antioxidant micronutrients. *Toxicology* 180: 121-137.
- Aoi, W., Naito, Y., Sakuma, K., Kuchide, M., Tokuda, H., Maoka, T., Toyokuni, S., Oka, S., Yasuhara, M. & Yoshikawa, T. (2003) Astaxanthin limits exercise-induced skeletal and cardiac muscle damage in mice. *Antioxid.Redox.Signal.* 5: 139-144.
- Aoki, H., Kieu, N. T., Kuze, N., Tomisaka, K. & Van Chuyen, N. (2002) Carotenoid pigments in GAC fruit (*Momordica cochinchinensis* SPRENG). *Biosci.Biotechnol.Biochem.* 66: 2479-2482.
- Assuncao, R. B. & Mercadante, A. Z. (2003) Carotenoids and ascorbic acid composition from commercial products of cashew apple (*Anacardium occidentale* L.). *J.Food Composition and Analysis* 16: 647-657.
- Astley, S. B., Elliott, R. M., Archer, D. B. & Southon, S. (2004) Evidence that dietary supplementation with carotenoids and carotenoid-rich foods modulates the DNA damage: repair balance in human lymphocytes. *Br.J.Nutr.* 91: 63-72.
- Astley, S. B., Hughes, D. A., Wright, A. J., Elliott, R. M. & Southon, S. (2004) DNA damage and susceptibility to oxidative damage in lymphocytes: effects of carotenoids *in vitro* and *in vivo*. *Br.J.Nutr.* 91: 53-61.
- Attie, A. D., Hamon, Y., Brooks-Wilson, A. R., Gray-Keller, M. P., MacDonald, M. L., Rigot, V., Tebon, A., Zhang, L. H., Mulligan, J. D., Singaraja, R. R., Bitgood, J. J., Cook, M. E., Kastelein, J. J., Chimini, G. & Hayden, M. R. (2002) Identification and functional analysis of a naturally occurring E89K mutation in the ABCA1 gene of the WHAM chicken. *J.Lipid Res.* 43: 1610-1617.
- Baeten, V., Dardenne, P. & Aparicio, R. (2001) Interpretation of Fourier transform Raman spectra of the unsaponifiable matter in a selection of edible oils. *J.Agric.Food Chem.* 49: 5098-5107.
- Baroli, I., Do, A. D., Yamane, T. & Niyogi, K. K. (2003) Zeaxanthin accumulation in the absence of a functional xanthophyll cycle protects *Chlamydomonas reinhardtii* from photooxidative stress. *Plant Cell* 15: 992-1008.
- Bergheim, I., Parlesak, A., Dierks, C., Bode, J. C. & Bode, C. (2003) Nutritional deficiencies in German middle-class male alcohol consumers: relation to dietary intake and severity of liver disease. *Eur.J.Clin.Nutr.* 57: 431-438.
- Berry, A., Janssens, D., Humbelin, M., Jore, J. P., Hoste, B., Cleenwerck, I., Vancanneyt, M., Bretzel, W., Mayer, A. F., Lopez-Ulibarri, R., Shanmugam, B., Swings, J. & Pasamontes, L.

(2003) *Paracoccus zeaxanthinifaciens* sp. nov., a zeaxanthin-producing bacterium. *Int.J.Syst.Evol.Microbiol.* 53: 231-238.

Bhosale, P., Ermakov, I. V., Ermakova, M. R., Gellermann, W. & Bernstein, P. S. (2004) Resonance Raman quantification of nutritionally important carotenoids in fruits, vegetables, and their juices in comparison to high-pressure liquid chromatography analysis. *J.Agric.Food Chem.* 52: 3281-3285.

Bialy, T. L., Rothe, M. J. & Grant-Kels, J. M. (2002) Dietary factors in the prevention and treatment of nonmelanoma skin cancer and melanoma. *Dermatol.Surg.* 28: 1143-1152.

Blades, B. L., Dufficy, L., Englberger, L., Daniells, J. W., Coyne, T., Hamill, S. & Wills, R. B. (2003) Bananas and plantains as a source of provitamin A. *Asia.Pac.J.Clin.Nutr.* 12: S36.

Bogers, R. P., Dagnelie, P. C., Westerterp, K. R., Kester, A. D., van Klaveren, J. D., Bast, A. & van den Brandt, P. A. (2003) Using a correction factor to correct for overreporting in a food-frequency questionnaire does not improve biomarker-assessed validity of estimates for fruit and vegetable consumption. *J.Nutr.* 133: 1213-1219.

Bone, R. A., Landrum, J. T., Guerra, L. H. & Ruiz, C. A. (2003) Lutein and zeaxanthin dietary supplements raise macular pigment density and serum concentrations of these carotenoids in humans. *J.Nutr.* 133: 992-998.

Borowska, J., Kowalska, M., Czaplicki, S. & Zadernowski, R. (2003) Effect of hydrothermal processing on carrot carotenoids changes and interactions with dietary fiber. *Nahrung.* 47: 46-48.

Borras, E., Zaragoza, R., Morante, M., Garcia, C., Gimeno, A., Lopez-Rodas, G., Barber, T., Miralles, V. J., Vina, J. R. & Torres, L. (2003) *In vivo* studies of altered expression patterns of p53 and proliferative control genes in chronic vitamin A deficiency and hypervitaminosis. *Eur.J.Biochem.* 270: 1493-1501.

Botsoglou, N., Papageorgiou, G., Nikolakakis, I., Florou-Paneri, P., Giannenas, I., Dotas, V. & Sinapis, E. (2004) Effect of dietary dried tomato pulp on oxidative stability of Japanese quail meat. *J.Agric.Food Chem.* 52: 2982-2988.

Bramley, P. M. (2000) Is lycopene beneficial to human health? *Phytochemistry* 54: 233-236.

Breithaupt, D. E. (2000) Enzymatic hydrolysis of carotenoid fatty acid esters of red pepper (*Capsicum annuum* L.) by a lipase from *Candida rugosa*. *Z.Naturforsch.[C]* 55: 971-975.

Breithaupt, D. E. (2004) Identification and quantification of astaxanthin esters in shrimp (*Pandalus borealis*) and in a microalga (*Haematococcus pluvialis*) by liquid chromatography-mass spectrometry using negative ion atmospheric pressure chemical ionization. *J.Agric.Food Chem.* 52: 3870-3875.

Breithaupt, D. E., Weller, P., Wolters, M. & Hahn, A. (2004) Comparison of plasma responses in human subjects after the ingestion of 3R,3R'-zeaxanthin dipalmitate from wolfberry (*Lycium barbarum*) and non-esterified 3R,3R'-zeaxanthin using chiral high-performance liquid chromatography. *Br.J.Nutr.* 91: 707-713.

Briviba, K., Schnabele, K., Rechkemmer, G. & Bub, A. (2004) Supplementation of a diet low in carotenoids with tomato or carrot juice does not affect lipid peroxidation in plasma and feces of healthy men. *J.Nutr.* 134: 1081-1083.

Broekmans, W. M., Klopping-Ketelaars, I. A., Weststrate, J. A., Tijburg, L. B., van Poppel, G., Vink, A. A., Berendschot, T. T., Bots, M. L., Castenmiller, W. A. & Kardinaal, A. F. (2003) Decreased carotenoid concentrations due to dietary sucrose polyesters do not affect possible markers of disease risk in humans. *J.Nutr.* 133: 720-726.

Brown, M. J., Ferruzzi, M. G., Nguyen, M. L., Cooper, D. A., Eldridge, A. L., Schwartz, S. J. & White, W. S. (2004) Carotenoid bioavailability is higher from salads ingested with full-fat than with fat-reduced salad dressings as measured with electrochemical detection. *Am.J.Clin.Nutr.* 80: 396-403.

Browning, D. F., Whitworth, D. E. & Hodgson, D. A. (2003) Light-induced carotenogenesis in *Myxococcus xanthus*: functional characterization of the ECF sigma factor CarQ and antisigma factor CarR. *Mol.Microbiol.* 48: 237-251.

Calucci, L., Pinzino, C., Zandomeneghi, M., Capocchi, A., Ghiringhelli, S., Saviozzi, F., Tozzi, S. & Galleschi, L. (2003) Effects of gamma-irradiation on the free radical and antioxidant contents in nine aromatic herbs and spices. *J.Agric.Food Chem.* 51: 927-934.

Cantrell, A., McGarvey, D. J., Truscott, T. G., Rancan, F. & Bohm, F. (2003) Singlet oxygen quenching by dietary carotenoids in a model membrane environment. *Arch.Biochem.Biophys.* 412: 47-54.

Castelletti, S., Morosinotto, T., Robert, B., Caffarri, S., Bassi, R. & Croce, R. (2003) Recombinant Lhca2 and Lhca3 subunits of the photosystem I antenna system. *Biochemistry* 42: 4226-4234.

Chamorro, G., Salazar, M., Araujo, K. G., dos Santos, C. P., Ceballos, G. & Castillo, L. F. (2002) [Update on the pharmacology of *Spirulina* (*Arthrospira*), an unconventional food]. *Arch.Latinoam.Nutr.* 52: 232-240.

Chang, C. W., Chu, G., Hinz, B. J. & Greve, M. D. (2003) Current use of dietary supplementation in patients with age-related macular degeneration. *Can.J.Ophthalmol.* 38: 27-32.

Chen, G. & Djuric, Z. (2002) Detection of 2,6-cyclolycopene-1,5-diol in breast nipple aspirate fluids and plasma: a potential marker of oxidative stress. *Cancer Epidemiol.Biomarkers.Prev.* 11: 1592-1596.

Cheng, L. (2003) Xanthophyll cycle pool size and composition in relation to the nitrogen content of apple leaves. *J.Exp.Bot.* 54: 385-393.

Choi, Y. E., Yun, Y. S. & Park, J. M. (2002) Evaluation of factors promoting astaxanthin production by a unicellular green alga, *Haematococcus pluvialis*, with fractional factorial design. *Biotechnol.Prog.* 18: 1170-1175.

Christen, W. G., Manson, J. E., Glynn, R. J., Gaziano, J. M., Sperduto, R. D., Buring, J. E. & Hennekens, C. H. (2003) A randomized trial of beta carotene and age-related cataract in US

physicians. *Arch.Ophthalmol.* 121: 372-378.

Clarke, R. & Armitage, J. (2002) Antioxidant vitamins and risk of cardiovascular disease. Review of large-scale randomised trials. *Cardiovasc.Drugs Ther.* 16: 411-415.

Cortes, C., Esteve, M. J., Frigola, A. & Torregrosa, F. (2004) Identification and quantification of carotenoids including geometrical isomers in fruit and vegetable juices by liquid chromatography with ultraviolet-diode array detection. *J.Agric.Food Chem.* 52: 2203-2212.

Croce, R., Muller, M. G., Caffarri, S., Bassi, R. & Holzwarth, A. R. (2003) Energy transfer pathways in the minor antenna complex CP29 of Photosystem II: A femtosecond study of carotenoid to chlorophyll transfer on mutant and WT complexes. *Biophys.J.* 84: 2517-2532.

Darlington, S., Williams, G., Neale, R., Frost, C. & Green, A. (2003) A randomized controlled trial to assess sunscreen application and beta carotene supplementation in the prevention of solar keratoses. *Arch.Dermatol.* 139: 451-455.

Darmon, N., Ferguson, E. L. & Briend, A. (2002) A cost constraint alone has adverse effects on food selection and nutrient density: an analysis of human diets by linear programming. *J.Nutr.* 132: 3764-3771.

de Sa, M. C. & Rodriguez-Amaya, D. B. (2004) Optimization of HPLC quantification of carotenoids in cooked green vegetables -- Comparison of analytical and calculated data. *J.Food Composition and Analysis* 17: 37-51.

De-Oliveira, A. C., Silva, I. B., Manhaes-Rocha, D. A. & Paumgartten, F. J. (2003) Induction of liver monooxygenases by annatto and bixin in female rats. *Braz.J.Med.Biol.Res.* 36: 113-118.

Diwadkar-Navsariwala, V., Novotny, J. A., Gustin, D. M., Sosman, J. A., Rodvold, K. A., Crowell, J. A., Stacewicz-Sapuntzakis, M. & Bowen, P. E. (2003) A physiological pharmacokinetic model describing the disposition of lycopene in healthy men. *J.Lipid Res.* 44: 1927-1939.

Dixon, L. B., Zimmerman, T. P., Kahle, L. L. & Subar, A. F. (2003) Adding carotenoids to the NCI Diet History Questionnaire database. *J.Food Composition and Analysis* 16: 269-280.

Djuric, Z., Uhley, V. E., Naegeli, L., Lababidi, S., Macha, S. & Heilbrun, L. K. (2003) Plasma carotenoids, tocopherols, and antioxidant capacity in a 12-week intervention study to reduce fat and/or energy intakes. *Nutrition.* 19: 244-249.

Dragnev, K. H., Stover, D. & Dmitrovsky, E. (2003) Lung cancer prevention: the guidelines. *Chest* 123: 60S-71S.

Drisko, J. A., Chapman, J. & Hunter, V. J. (2003) The use of antioxidants with first-line chemotherapy in two cases of ovarian cancer. *J.Am.Coll.Nutr.* 22: 118-123.

El-Agamey, A. & McGarvey, D. J. (2003) Evidence for a lack of reactivity of carotenoid addition radicals towards oxygen: a laser flash photolysis study of the reactions of carotenoids with acylperoxy radicals in polar and non-polar solvents. *J.Am.Chem.Soc.* 125: 3330-3340.

Engelhardt, H. (2004) One century of liquid chromatography. From Tswett's columns to modern high speed and high performance separations. *J.Chromatogr.B.Analyt.Technol.Biomed.Life Sci.*

800: 3-6.

Englberger, L., Aalbersberg, W., Fitzgerald, M. H., Marks, G. C. & Chand, K. (2003) Provitamin A carotenoid content of different cultivars of edible pandanus fruit. *J.Food Composition and Analysis* 16: 237-247.

Englberger, L., Darnton-Hill, I., Coyne, T., Fitzgerald, M. H. & Marks, G. C. (2003) Carotenoid-rich bananas: a potential food source for alleviating vitamin A deficiency. *Food Nutr.Bull.* 24: 303-318.

Englberger, L., Schierle, J., Marks, G. C. & Fitzgerald, M. H. (2003) Micronesian banana, taro, and other foods: newly recognized sources of provitamin A and other carotenoids. *J.Food Composition and Analysis* 16: 3-19.

Epstein, K. R. (2003) The role of carotenoids on the risk of lung cancer. *Semin.Oncol.* 30: 86-93.

Erhardt, J. G. (2004) Printed version of the new vitamin A table. *Sight and Life Newsletter* 25-34.

Ervin, R. B., Wright, J. D., Wang, C. Y. & Kennedy-Stephenson, J. (2004) Dietary intake of selected vitamins for the United States population: 1999-2000. *Advance Data from Vital and Health Statistics* no. 339: 1-4.

Faivre, B., Gregoire, A., Preault, M., Cezilly, F. & Sorci, G. (2003) Immune activation rapidly mirrored in a secondary sexual trait. *Science* 300: 103.

Fawzi, W. W., Msamanga, G. I., Wei, R., Spiegelman, D., Antelman, G., Villamor, E., Manji, K. & Hunter, D. (2003) Effect of providing vitamin supplements to human immunodeficiency virus-infected, lactating mothers on the child's morbidity and CD4+ cell counts. *Clin.Infect.Dis.* 36: 1053-1062.

Felicissimo, M. P., Bittencourt, C., Houssiau, L. & Pireaux, J. J. (2004) Time-of-flight secondary ion mass spectrometry and X-ray photoelectron spectroscopy analyses of *Bixa orellana* seeds. *J.Agric.Food Chem.* 52: 1810-1814.

Fester, T., Schmidt, D., Lohse, S., Walter, M. H., Giuliano, G., Bramley, P. M., Fraser, P. D., Hause, B. & Strack, D. (2002) Stimulation of carotenoid metabolism in arbuscular mycorrhizal roots. *Planta* 216: 148-154.

Fish, W. W., Perkins-Veazie, P. & Collins, J. K. (2002) A quantitative assay for lycopene that utilizes reduced volumes of organic solvents. *J.Food Composition and Analysis* 15: 309-317.

Fitze, P. S., Kolliker, M. & Richner, H. (2003) Effects of common origin and common environment on nestling plumage coloration in the great tit (*Parus major*). *Evolution Int.J.Org.Evolution* 57: 144-150.

Fleischmann, P., Watanabe, N. & Winterhalter, P. (2003) Enzymatic carotenoid cleavage in star fruit (*Averrhoa carambola*). *Phytochemistry* 63: 131-137.

Fraser, P. D., Romer, S., Shipton, C. A., Mills, P. B., Kiano, J. W., Misawa, N., Drake, R. G.,

- Schuch, W. & Bramley, P. M. (2002) Evaluation of transgenic tomato plants expressing an additional phytoene synthase in a fruit-specific manner. *Proc.Natl.Acad.Sci.U.S.A.* 99: 1092-1097.
- Fujiwara, Y., Maruwaka, H., Toki, F., Hashimoto, K. & Maoka, T. (2001) Structure of three new carotenoids with a 3-methoxy-5-keto-5,6-seco-4,6-cyclo-beta end group from the seeds of *Pittosporum tobira*. *Chem.Pharm.Bull.(Tokyo)* 49: 985-987.
- Furutani, Y., Sudo, Y., Kamo, N. & Kandori, H. (2003) FTIR spectroscopy of the complex between pharaonis phorborhodopsin and its transducer protein. *Biochemistry* 42: 4837-4842.
- Gallagher, C. E., Cervantes-Cervantes, M. & Wurtzel, E. T. (2003) Surrogate biochemistry: use of *Escherichia coli* to identify plant cDNAs that impact metabolic engineering of carotenoid accumulation. *Appl.Microbiol.Biotechnol.* 60: 713-719.
- Garcia, A. L., Ruhl, R., Herz, U., Koebnick, C., Schweigert, F. J. & Worm, M. (2003) Retinoid- and carotenoid-enriched diets influence the ontogenesis of the immune system in mice. *Immunology* 110: 180-187.
- Garcia-Closas, R., Berenguer, A., Jose Tormo, M., Jose Sanchez, M., Quiros, J. R., Navarro, C., Arnaud, R., Dorronsoro, M., Dolores Chirlaque, M., Barricarte, A., Ardanaz, E., Amiano, P., Martinez, C., Agudo, A. & Gonzalez, C. A. (2004) Dietary sources of vitamin C, vitamin E and specific carotenoids in Spain. *Br.J.Nutr.* 91: 1005-1011.
- Garcia-Plazaola, J. I., Hernandez, A., Artetxe, U. & Becerril, J. M. (2004) Regulation of the xanthophyll cycle pool size in duckweed (*Lemna minor*) plants. *Physiol.Plant.* 116: 121-126.
- Gastaldelli, M., Canino, G., Croce, R. & Bassi, R. (2003) Xanthophyll binding sites of the CP29 (LhcB4) subunit of higher plant photosystem II investigated by domain swapping and mutation analysis. *J.Biol.Chem.* 278: 19190-19198.
- Giovannelli, L., Saieva, C., Masala, G., Testa, G., Salvini, S., Pitzozzi, V., Riboli, E., Dolara, P. & Palli, D. (2002) Nutritional and lifestyle determinants of DNA oxidative damage: a study in a Mediterranean population. *Carcinogenesis* 23: 1483-1489.
- Golbeck, J. H. (2003) The binding of cofactors to photosystem I analyzed by spectroscopic and mutagenic methods. *Annu.Rev.Biophys.Biomol.Struct.* 32: 237-256.
- Gomez-Aracena, J., Bogers, R., van't Veer, P., Gomez-Gracia, E., Garcia-Rodriguez, A., Wedel, H. & Fernandez-Crehuet Navajas, J. (2003) Vegetable consumption and carotenoids in plasma and adipose tissue in Malaga, Spain. *Int.J.Vitam.Nutr.Res.* 73: 24-31.
- Gotto, A. M. (2003) Antioxidants, statins, and atherosclerosis. *J.Am.Coll.Cardiol.* 41: 1205-1210.
- Granot, E. & Kohen, R. (2004) Oxidative stress in abetalipoproteinemia patients receiving long-term vitamin E and vitamin A supplementation. *Am.J.Clin.Nutr.* 79: 226-230.
- Groussard, C., Machefer, G., Rannou, F., Faure, H., Zouhal, H., Sergent, O., Chevanne, M., Cillard, J. & Gratas-Delamarche, A. (2003) Physical fitness and plasma non-enzymatic antioxidant status at rest and after a Wingate test. *Can.J.Appl.Physiol.* 28: 79-92.

Guil-Guerrero, J. L., Rebollos-Fuentes, M. M. & Torija Isasa, M. E. (2003) Fatty acids and carotenoids from stinging nettle (*Urtica dioica* L.). *J.Food Composition and Analysis* 16: 111-119.

Halsted, C. H. (2003) Dietary supplements and functional foods: 2 sides of a coin? *Am.J.Clin.Nutr.* 77: 1001S-1007S.

Hartmann, D., Thurmann, P. A., Spitzer, V., Schalch, W., Manner, B. & Cohn, W. (2004) Plasma kinetics of zeaxanthin and 3'-dehydro-lutein after multiple oral doses of synthetic zeaxanthin. *Am.J.Clin.Nutr.* 79: 410-417.

Heinrich, E. & Getoff, N. (2003) Mitomycin C-activity effected by vitamins B1, C, E and beta-carotene under irradiation with gamma-rays. *Z.Naturforsch.[C]*. 58: 244-248.

Herron, K. L. & Fernandez, M. L. (2004) Are the current dietary guidelines regarding egg consumption appropriate? *J.Nutr.* 134: 187-190.

Homma, Y., Ikeda, I., Ishikawa, T., Tateno, M., Sugano, M. & Nakamura, H. (2003) Decrease in plasma low-density lipoprotein cholesterol, apolipoprotein B, cholesteryl ester transfer protein, and oxidized low-density lipoprotein by plant stanol ester-containing spread: A randomized, placebo-controlled trial. *Nutrition*. 19: 369-374.

Ito, Y., Wakai, K., Suzuki, K., Tamakoshi, A., Seki, N., Ando, M., Nishino, Y., Kondo, T., Watanabe, Y., Ozasa, K. & Ohno, Y. (2003) Serum carotenoids and mortality from lung cancer: a case-control study nested in the Japan Collaborative Cohort (JACC) study. *Cancer Sci.* 94: 57-63.

Jin, E., Feth, B. & Melis, A. (2003) A mutant of the green alga *Dunaliella salina* constitutively accumulates zeaxanthin under all growth conditions. *Biotechnol.Bioeng.* 81: 115-124.

Jones, C. M., Mes, P. & Myers, J. R. (2003) Characterization and inheritance of the Anthocyanin fruit (Aft) tomato. *J.Hered.* 94: 449-456.

Kant, A. K. (2002) Association of self-perceived body weight status with dietary reporting by U.S. teens. *Obes.Res.* 10: 1259-1269.

Kant, A. K. (2002) Weight-loss attempts and reporting of foods and nutrients, and biomarkers in a national cohort. *Int.J.Obes.Relat.Metab.Disord.* 26: 1194-1204.

Kant, A. K. (2003) Interaction of body mass index and attempt to lose weight in a national sample of US adults: association with reported food and nutrient intake, and biomarkers. *Eur.J.Clin.Nutr.* 57: 249-259.

Kerfeld, C. A., Sawaya, M. R., Brahmandam, V., Cascio, D., Ho, K. K., Trevithick-Sutton, C. C., Krogmann, D. W. & Yeates, T. O. (2003) The crystal structure of a cyanobacterial water-soluble carotenoid binding protein. *Structure.(Camb)*. 11: 55-65.

Kim, S., Park, J. & Hwang, I. K. (2004) Composition of main carotenoids in Korean red pepper (*Capsicum annuum*, L.) and changes of pigment stability during the drying and storage process. *J.Food Sci.* 69: 39-44.

Kobayashi, M., Sasaki, S. & Tsugane, S. (2003) Validity of a self-administered food frequency questionnaire used in the 5-year follow-up survey of the JPHC Study Cohort I to assess carotenoids and vitamin C intake: comparison with dietary records and blood level. *J.Epidemiol.* 13: S82-S91.

Kostecka-Gugala, A., Latowski, D. & Strzalka, K. (2003) Thermotropic phase behaviour of alpha-dipalmitoylphosphatidylcholine multibilayers is influenced to various extents by carotenoids containing different structural features--evidence from differential scanning calorimetry. *Biochim.Biophys.Acta* 1609: 193-202.

Kritchevsky, D., Tepper, S. A., Czarnecki, S. K. & Sundram, K. (2002) Red palm oil in experimental atherosclerosis. *Asia.Pac.J.Clin.Nutr.* 11 (Suppl 7): S433-S437.

Kumanyika, S. K., Mauger, D., Mitchell, D. C., Phillips, B., Smiciklas-Wright, H. & Palmer, J. R. (2003) Relative validity of food frequency questionnaire nutrient estimates in the Black Women's Health Study. *Ann.Epidemiol.* 13: 111-118.

Lakshmi, K. V., Poluektov, O. G., Reifler, M. J., Wagner, A. M., Thurnauer, M. C. & Brudvig, G. W. (2003) Pulsed high-frequency EPR study on the location of carotenoid and chlorophyll cation radicals in photosystem II. *J.Am.Chem.Soc.* 125: 5005-5014.

Leathers, T. D. (2003) Bioconversions of maize residues to value-added coproducts using yeast-like fungi. *FEM.Yeast.Res.* 3: 133-140.

Lee, P. C. & Schmidt-Dannert, C. (2002) Metabolic engineering towards biotechnological production of carotenoids in microorganisms. *Appl.Microbiol.Biotechnol.* 60: 1-11.

Lesellier, E., West, C. & Tchapla, A. (2003) Advantages of the use of monolithic stationary phases for modelling the retention in sub/supercritical chromatography. Application to cis/trans-beta-carotene separation. *J.Chromatogr.A.* 1018: 225-232.

Li, Z., Hu, C. Y., Mo, B. Q., Xu, J. D. & Zhao, Y. (2003) [Effect of beta-carotene on gene expression of breast cancer cells]. *Ai.Zheng.* 22: 380-384.

Limpens, J., van Weerden, W. M., Kramer, K., Pallapies, D., Obermuller-Jevic, U. C. & Schroder, F. H. (2004) Re: Prostate carcinogenesis in N-methyl-N-nitrosourea (NMU)-testosterone-treated rats fed tomato powder, lycopene, or energy-restricted diets. *J.Natl.Cancer Inst.* 96: 554; author reply 55

Liu, C., Russell, R. M. & Wang, X. D. (2004) Alpha-tocopherol and ascorbic acid decrease the production of beta-apo-carotenals and increase the formation of retinoids from beta-carotene in the lung tissues of cigarette smoke-exposed ferrets in vitro. *J.Nutr.* 134: 426-430.

Liu, C. S., Glahn, R. P. & Liu, R. H. (2004) Assessment of carotenoid bioavailability of whole foods using a Caco-2 cell culture model coupled with an in vitro digestion. *J.Agric.Food Chem.* 52: 4330-4337.

Lockwood, S. F., O'Malley, S. & Mosher, G. L. (2003) Improved aqueous solubility of crystalline astaxanthin (3,3'-dihydroxy-beta, beta-carotene-4,4'-dione) by Captisol (sulfobutyl ether beta-cyclodextrin). *J.Pharm.Sci.* 92: 922-926.

Ma, Y. Z., Holt, N. E., Li, X. P., Niyogi, K. K. & Fleming, G. R. (2003) Evidence for direct carotenoid involvement in the regulation of photosynthetic light harvesting. *Proc.Natl.Acad.Sci.U.S.A.* 100: 4377-4382.

Macko, S., Wehner, A. & Jahns, P. (2002) Comparison of violaxanthin de-epoxidation from the stroma and lumen sides of isolated thylakoid membranes from *Arabidopsis*: implications for the mechanism of de-epoxidation. *Planta* 216: 309-314.

Maharshak, N., Shapiro, J. & Trau, H. (2003) Carotenoderma--a review of the current literature. *Int.J.Dermatol.* 42: 178-181.

Maoka, T., Akimoto, N., Fujiwara, Y. & Hashimoto, K. (2004) Structure of new carotenoids with the 6-oxo-kappa end group from the fruits of paprika, *Capsicum annuum*. *J.Nat.Prod.* 67: 115-117.

Maoka, T., Fujiwara, Y., Hashimoto, K., Takeda, S., Takaragaki, S. & Ida, K. (2000) A new retro-carotenoid from the petals of the Californian yellow poppy *Eschscholtzia californica*. *J.Nat.Prod.* 63: 1288-1289.

Maoka, T., Tsushima, M. & Nishino, H. (2002) Isolation and characterization of dinochrome A and B, anti-carcinogenic active carotenoids from the fresh Water red tide *Peridinium bipes*. *Chem.Pharm.Bull.(Tokyo)* 50: 1630-1633.

Marin, A., Ferreres, F., Tomas-Barberan, F. A. & Gil, M. I. (2004) Characterization and quantitation of antioxidant constituents of sweet pepper (*Capsicum annuum* L.). *J.Agric.Food Chem.* 52: 3861-3869.

Matsubara, S., Morosinotto, T., Bassi, R., Christian, A. L., Fischer-Schliebs, E., Luttge, U., Orthen, B., Franco, A. C., Scarano, F. R., Forster, B., Pogson, B. J. & Osmond, C. B. (2003) Occurrence of the lutein-epoxide cycle in mistletoes of the *Loranthaceae* and *Viscaceae*. *Planta* 217: 868-879.

Matsui, K., Takaichi, S. & Nakamura, M. (2003) Morphological and biochemical changes in carotenoid granules in the ventral skin during growth of the Japanese newt *Cynops pyrrhogaster*. *Zoolog.Sci.* 20: 435-440.

Mayne, S. T. (2003) Antioxidant nutrients and chronic disease: use of biomarkers of exposure and oxidative stress status in epidemiologic research. *J.Nutr.* 133: 933S-940S.

Mazzone, A. & Dal Canton, A. (2002) Image in clinical medicine. Hypercarotenemia. *N Engl.J.Med.* 346: 821.

Mendes-Pinto, M. M., Ferreira, A. C., Oliveira, M. B. & Guedes De Pinho, P. (2004) Evaluation of some carotenoids in grapes by reversed- and normal-phase liquid chromatography: A qualitative analysis. *J.Agric.Food Chem.* 52: 3182-3188.

Minoggio, M., Bramati, L., Simonetti, P., Gardana, C., Iemoli, L., Santangelo, E., Mauri, P. L., Spigno, P., Soressi, G. P. & Pietta, P. G. (2003) Polyphenol pattern and antioxidant activity of different tomato lines and cultivars. *Ann.Nutr.Metab.* 47: 64-69.

Molldrem, K. L., Li, J., Simon, P. W. & Tanumihardjo, S. A. (2004) Lutein and beta-carotene

from lutein-containing yellow carrots are bioavailable in humans. *Am.J.Clin.Nutr.* 80: 131-136.

Moore, T. A., Moore, A. L. & Gust, D. (2002) The design and synthesis of artificial photosynthetic antennas, reaction centres and membranes. *Philos.Trans.R.Soc.Lond.B Biol.Sci.* 357: 1481-1498.

Muhlhofer, A., Buhler-Ritter, B., Frank, J., Zoller, W. G., Merkle, P., Bosse, A., Heinrich, F. & Biesalski, H. K. (2003) Carotenoids are decreased in biopsies from colorectal adenomas. *Clin.Nutr.* 22: 65-70.

Munne-Bosch, S. & Alegre, L. (2000) Changes in carotenoids, tocopherols and diterpenes during drought and recovery, and the biological significance of chlorophyll loss in *Rosmarinus officinalis* plants. *Planta* 210: 925-931.

Munne-Bosch, S. & Penuelas, J. (2003) Photo- and antioxidative protection, and a role for salicylic acid during drought and recovery in field-grown *Phillyrea angustifolia* plants. *Planta* 217: 758-766.

Murkovic, M., Mulleder, U. & Neunteufl, H. (2002) Carotenoid content in different varieties of pumpkins. *J.Food Composition and Analysis* 15: 633-638.

Nagler, L. G., Larkin, V. Z., Kozachenko, A. I. & Gurevich, S. M. (2003) Rate of free-radical oxidation of C18 diene and triene fatty acids in aqueous micellar solutions and effectiveness of beta-carotene as an inhibitor of their oxidation. *Biochemistry (Mosc).* 68: 203-208.

Nakashima, Y., Kusakabe, T., Kusakabe, R., Terakita, A., Shichida, Y. & Tsuda, M. (2003) Origin of the vertebrate visual cycle: genes encoding retinal photoisomerase and two putative visual cycle proteins are expressed in whole brain of a primitive chordate. *J.Comp.Neurol.* 460: 180-190.

Navarrete-Bolanos, J. L., Jimenez-Islas, H., Botello-Alvarez, E., Rico-Martinez, R. & Paredes-Lopez, O. (2004) Improving xanthophyll extraction from marigold flower using cellulolytic enzymes. *J.Agric.Food Chem.* 52: 3394-3398.

Nayak, L., Raval, M. K., Biswal, B. & Biswal, U. C. (2002) Topology and photoprotective role of carotenoids in photosystem II of chloroplast: a hypothesis. *Photochem.Photobiol.Sci.* 1: 629-361.

Nelson, J. L., DeMichele, S. J., Pacht, E. R. & Wennberg, A. K. (2003) Effect of enteral feeding with eicosapentaenoic acid, gamma-linolenic acid, and antioxidants on antioxidant status in patients with acute respiratory distress syndrome. *JPEN.J.Parenter.Enteral.Nutr.* 27: 98-104.

Neuhouser, M. L., Patterson, R. E., Thornquist, M. D., Omenn, G. S., King, I. B. & Goodman, G. E. (2003) Fruits and vegetables are associated with lower lung cancer risk only in the placebo arm of the beta-Carotene and Retinol Efficacy Trial (CARET). *Cancer Epidemiol.Biomarkers.Prev.* 12: 350-358.

Nilsson, S. E., Sundelin, S. P., Wihlmark, U. & Brunk, U. T. (2003) Aging of cultured retinal pigment epithelial cells: oxidative reactions, lipofuscin formation and blue light damage. *Doc.Ophthalmol.* 106: 13-16.

Nkondjock, A. & Ghadirian, P. (2004) Intake of specific carotenoids and essential fatty acids and breast cancer risk in Montreal, Canada. *Am.J.Clin.Nutr.* 79: 857-864.

Nkondjock, A., Shatenstein, B., Maisonneuve, P. & Ghadirian, P. (2003) Assessment of risk associated with specific fatty acids and colorectal cancer among French-Canadians in Montreal: a case-control study. *Int.J.Epidemiol.* 32: 200-209; disc. 209-10.

Novotny, J. A., Britz, S., Caulfield, F., Beecher, G. & Clevidence, B. (2003) Intrinsic labeling of plants for bioavailability studies. *Adv.Exp.Med.Biol.* 537: 131-139.

Ozturk, Y., Buyukgebir, B., Arslan, N., Ozer, E. & Lebe, B. (2003) Serum vitamin A and total carotene concentrations in well-nourished children with Helicobacter pylori infection. *J.Pediatr.Gastroenterol.Nutr.* 36: 502-504.

Page, G. I. & Davies, S. J. (2002) Astaxanthin and canthaxanthin do not induce liver or kidney xenobiotic-metabolizing enzymes in rainbow trout (*Oncorhynchus mykiss* Walbaum). *Comp.Biochem.Physiol.C.Toxicol.Pharmacol.* 133: 443-451.

Palozza, P., Piccioni, E., Avanzi, L., Vertuani, S., Calviello, G. & Manfredini, S. (2002) Design, synthesis, and antioxidant activity of FeAOX-6, a novel agent deriving from a molecular combination of the chromanyl and polyisoprenyl moieties. *Free Radic.Biol.Med.* 33: 1724-1735.

Patrick, L. (2000) Nutrients and HIV: part two--vitamins A and E, zinc, B-vitamins, and magnesium. *Altern.Med.Rev.* 5: 39-51.

Pinta, V., Ouchane, S., Picaud, M., Takaichi, S., Astier, C. & Reiss-Husson, F. (2003) Characterization of unusual hydroxy- and ketocarotenoids in *Rubrivivax gelatinosus*: involvement of enzyme CrtF or CrtA. *Arch.Microbiol.* 179: 354-362.

Pintea, A., Marpeau, A., Faye, M., Socaciu, C. & Gleizes, M. (2001) Polar lipid and fatty acid distribution in carotenolipoprotein complexes extracted from sea buckthorn fruits. *Phytochem.Anal.* 12: 293-298.

Pott, I., Breithaupt, D. E. & Carle, R. (2003) Detection of unusual carotenoid esters in fresh mango (*Mangifera indica* L. cv. 'Kent'). *Phytochemistry* 64: 825-829.

Prache, S., Priolo, A. & Grolier, P. (2003) Persistence of carotenoid pigments in the blood of concentrate-finished grazing sheep: its significance for the traceability of grass-feeding. *J.Anim.Sci.* 81: 360-367.

Prakash, P., Liu, C., Hu, K. Q., Krinsky, N. I., Russell, R. M. & Wang, X. D. (2004) Beta-carotene and beta-apo-14'-carotenoic acid prevent the reduction of retinoic acid receptor beta in benzo[a]pyrene-treated normal human bronchial epithelial cells. *J.Nutr.* 134: 667-673.

Qian, P., Addlesee, H. A., Ruban, A. V., Wang, P., Bullough, P. A. & Hunter, C. N. (2003) A reaction center-light-harvesting 1 complex (RC-LH1) from a *Rhodospirillum rubrum* mutant with altered esterifying pigments: characterization by optical spectroscopy and cryo-electron microscopy. *J.Biol.Chem.* 278: 23678-23685.

Qin, F., Shite, J. & Liang, C. S. (2003) Antioxidants attenuate myocyte apoptosis and improve cardiac function in CHF: association with changes in MAPK pathways. *Am.J.Physiol.Heart*

Circ.Physiol. 285: H822-H832.

Rahmani, B., Jampol, L. M. & Feder, R. S. (2003) Clinicopathologic reports, case reports, and small case series: peripheral pigmented corneal ring: a new finding in hypercarotenemia. *Arch.Ophthalmol.* 121: 403-407.

Ramadan, M. F. & Morsel, J. T. (2003) Oil goldenberry (*Physalis peruviana* L.). *J.Agric.Food Chem.* 51: 969-974.

Rao, A. V. & Balachandran, B. (2002) Role of oxidative stress and antioxidants in neurodegenerative diseases. *Nutr.Neurosci.* 5: 291-309.

Ratnasinghe, D. L., Yao, S. X., Forman, M., Qiao, Y. L., Andersen, M. R., Giffen, C. A., Erozan, Y., Tockman, M. S. & Taylor, P. R. (2003) Gene-environment interactions between the codon 194 polymorphism of XRCC1 and antioxidants influence lung cancer risk. *Anticancer Res.* 23: 627-632.

Reifen, R., Haftel, L., Faulks, R., Southon, S., Kaplan, I. & Schwarz, B. (2003) Plasma and buccal mucosal cell response to short-term supplementation with all *trans*-beta-carotene and lycopene in human volunteers. *Int.J.Mol.Med.* 12: 989-993.

Ribaya-Mercado, J. D., Solon, F. S., Fermin, L. S., Perfecto, C. S., Solon, J. A. A., Dolnikowski, G. G. & Russell, R. M. (2004) Dietary vitamin A intakes of Filipino elders with adequate or low liver vitamin A concentrations as assessed by the deuterated-retinol-dilution method: implications for dietary requirements. *Am.J.Clin.Nutr.* 79: 633-641.

Richelle, M., Enslen, M., Hager, C., Groux, M., Tavazzi, I., Godin, J. P., Berger, A., Metairon, S., Quaile, S., Piguet-Welsch, C., Sagalowicz, L., Green, H. & Fay, L. B. (2004) Both free and esterified plant sterols reduce cholesterol absorption and the bioavailability of beta-carotene and alpha-tocopherol in normocholesterolemic humans. *Am.J.Clin.Nutr.* 80: 171-177.

Riemersma, R. A., Wilson, R., Payne, J. A. & Shepherd, M. J. (2003) Seasonal variation in copper-mediated low-density lipoprotein oxidation in vitro is related to varying plasma concentration of oxidised lipids in summer and winter. *Free Radic.Res.* 37: 341-347.

Rock, C. L. (2003) Carotenoid update. *J.Am.Diet.Assoc.* 103: 423-425.

Schippinger, G., Wonisch, W., Abuja, P. M., Fankhauser, F., Winklhofer-Roob, B. M. & Halwachs, G. (2002) Lipid peroxidation and antioxidant status in professional American football players during competition. *Eur.J.Clin.Invest.* 32: 686-692.

Schulpis, K. H., Tsakiris, S., Karikas, G. A., Moukas, M. & Behrakis, P. (2003) Effect of diet on plasma total antioxidant status in phenylketonuric patients. *Eur.J.Clin.Nutr.* 57: 383-387.

Schupp, C., Olano-Martin, E., Gerth, C., Morrissey, B. M., Cross, C. E. & Werner, J. S. (2004) Lutein, zeaxanthin, macular pigment, and visual function in adult cystic fibrosis patients. *Am.J.Clin.Nutr.* 79: 1045-1052.

Schwartz, S. H., Qin, X. & Zeevaart, J. A. (2003) Elucidation of the indirect pathway of abscisic acid biosynthesis by mutants, genes, and enzymes. *Plant Physiol.* 131: 1591-1601.

Schweigert, F. J. (2003) Research note: changes in the concentration of beta-carotene, alpha-tocopherol and retinol in the bovine corpus luteum during the ovarian cycle. *Arch. Tierernahr.* 57: 307-310.

Schweigert, F. J., Bathe, K., Chen, F., Buscher, U. & Dudenhausen, J. W. (2004) Effect of the stage of lactation in humans on carotenoid levels in milk, blood plasma and plasma lipoprotein fractions. *Eur.J.Nutr.* 43: 39-44.

Schweigert, F. J., Klingner, J., Hurtienne, A. & Zunft, H. J. (2003) Vitamin A, carotenoid and vitamin E plasma concentrations in children from Laos in relation to sex and growth failure. *Nutr.J.* 2: 17.

Shikany, J. M., Patterson, R. E., Agurs-Collins, T. & Anderson, G. (2003) Antioxidant supplement use in Women's Health Initiative participants. *Prev.Med.* 36: 379-387.

Shirai, T., Asamoto, M., Takahashi, S. & Imaida, K. (2002) Diet and prostate cancer. *Toxicology* 181-182: 89-94.

Shivashankara, K. S., Isobe, S., Al-Haq, M. I., Takenaka, M. & Shiina, T. (2004) Fruit antioxidant activity, ascorbic acid, total phenol, quercetin, and carotene of Irwin mango fruits stored at low temperature after high electric field pretreatment. *J.Agric.Food Chem.* 52: 1281-1286.

Simova, E. D., Frengova, G. I. & Beshkova, D. M. (2003) Effect of aeration on the production of carotenoid pigments by *Rhodotorula rubra-lactobacillus casei* subsp. *casei* co-cultures in whey ultrafiltrate. *Z.Naturforsch.[C]* 58: 225-229.

Socaciu, C., Bojarski, P., Aberle, L. & Diehl, H. (2002) Different ways to insert carotenoids into liposomes affect structure and dynamics of the bilayer differently. *Biophys.Chem.* 99: 1-15.

Sreekala, C. & Raghava, S. (2003) Exploitation of heterosis for carotenoid content in African marigold (*Tagetes erecta* L.) and its correlation with esterase polymorphism. *Theor.Appl.Genet.* 106: 771-776.

215. Stacewicz-Sapuntzakis, M. & Diwadkar-Navsariwala, V. (2004) Carotenoids. In: *Nutritional Ergogenic Aids* (Driskell, J. & Wolinsky, I. eds.), pp. 325-353. CRC Press, Boca Raton,FL.

Steptoe, A., Perkins-Porras, L., McKay, C., Rink, E., Hilton, S. & Cappuccio, F. P. (2003) Behavioural counselling to increase consumption of fruit and vegetables in low income adults: randomised trial. *BMJ.* 326: 855.

Stocker, P., Lesgards, J. F., Vidal, N., Chalier, F. & Prost, M. (2003) ESR study of a biological assay on whole blood: antioxidant efficiency of various vitamins. *Biochim.Biophys.Acta* 1621: 1-8.

Stover, D. E. (2003) Prevention of lung cancer. *Compr.Ther.* 29: 28-34.

Su, Q., Rowley, K. G., Itsipoulos, C. & O'Dea, K. (2002) Identification and quantitation of major carotenoids in selected components of the Mediterranean diet: green leafy vegetables, figs and olive oil. *Eur.J.Clin.Nutr.* 56: 1149-1154.

Surles, R. L., Weng, N., Simon, P. W. & Tanumihardjo, S. A. (2004) Carotenoid profiles and consumer sensory evaluation of specialty carrots (*Daucus carota*, L.) of various colors. *J.Agric.Food Chem.* 52: 3417-3421.

Suzuki, K., Ito, Y., Ochiai, J., Aoki, K., Wakai, K., Tamakoshi, A., Ando, M., Watanabe, Y., Ozasa, K., Seki, N., Nishino, Y., Kondo, T., Ohno, Y., Mori, M., Motohashi, Y., Tsuji, I., Nakamura, Y., Iso, H., Mikami, H., Hashimoto, S., Inaba, Y., Hoshiyama, Y., Suzuki, H., Shimizu, H., Toyoshima, H., Tokudome, S., Kikuchi, S., Koizumi, A., Kawamura, T., Miki, T., Date, C., Sakata, K., Nose, T., Hayakawa, N., Yoshimura, T., Fukuda, K., Okamoto, N., Shio, H., Kitagawa, T., Kuroki, T. & Tajima, K. (2003) The relationship between smoking habits and serum levels of 8-OHdG, oxidized LDL antibodies, Mn-SOD and carotenoids in rural Japanese residents. *J.Epidemiol.* 13: 29-37.

Svilaas, A., Sakhi, A. K., Andersen, L. F., Svilaas, T., Strom, E. C., Jacobs, D. R., Jr., Ose, L. & Blomhoff, R. (2004) Intakes of antioxidants in coffee, wine, and vegetables are correlated with plasma carotenoids in humans. *J.Nutr.* 134: 562-567.

Szponar, L. & Rychlik, E. (2002) [Dietary intake of elderly subjects in rural and urban area in Poland]. *Pol.Merkuriusz.Lek.* 13: 490-496.

Takaichi, S., Maoka, T. & Masamoto, K. (2001) Myxoxanthophyll in *Synechocystis* sp. PCC 6803 is myxol 2'-dimethyl-fucoside, (3R,2'S)-myxol 2'-(2,4-di-O-methyl-alpha-L-fucoside), not rhamnoside. *Plant Cell Physiol.* 42: 756-762.

Takaichi, S., Maoka, T., Yamada, M., Matsuura, K., Haikawa, Y. & Hanada, S. (2001) Absence of carotenes and presence of a tertiary methoxy group in a carotenoid from a thermophilic filamentous photosynthetic bacterium *Roseiflexus castenholzii*. *Plant Cell Physiol.* 42: 1355-1362.

Takaichi, S., Oh-oka, H., Maoka, T., Jung, D. O. & Madigan, M. T. (2003) Novel carotenoid glucoside esters from alkaliphilic heliobacteria. *Arch.Microbiol.* 179: 95-100.

Tang, G., Qin, J., Dolnikowski, G. G. & Russell, R. M. (2004) Short-term (intestinal) and long-term (post intestinal) conversion of beta-carotene to retinol in adults using a stable isotope reference method. *Am.J.Clin.Nutr.* (In Press)

Tangney, C. C., Bienias, J. L., Evans, D. A. & Morris, M. C. (2004) Reasonable estimates of serum vitamin E, vitamin C, and beta-cryptoxanthin are obtained with a food frequency questionnaire in older black and white adults. *J.Nutr.* 134: 927-934.

Telfer, A. (2002) What is beta-carotene doing in the photosystem II reaction centre? *Philos.Trans.R.Soc.Lond.B Biol.Sci.* 357: 1431-1439.

Telfer, A., Frolov, D., Barber, J., Robert, B. & Pascal, A. (2003) Oxidation of the two beta-carotene molecules in the photosystem II reaction center. *Biochemistry* 42: 1008-1015.

Thompson, M. B. & Speake, B. K. (2002) Energy and nutrient utilisation by embryonic reptiles. *Comp.Biochem.Physiol.A.Mol.Integr.Physiol.* 133: 529-538.

Tormo, M. J., Navarro, C., Chirlaque, M. D., Barber, X., Argilaga, S., Agudo, A., Amiano, P., Barricarte, A., Beguiristain, J. M., Dorronsoro, M., Gonzalez, C. A., Mart'nez, C., Quiros, J. R. &

Rodr'uez, M. (2003) Physical sports activity during leisure time and dietary intake of foods and nutrients in a large Spanish cohort. *Int.J.Sport.Nutr.Exerc.Metab.* 13: 47-64.

Torok, K., Jarai, D., Szalay, N., Biro, L. & Molnar, D. (2003) [Antioxidant vitamin intake in obese children]. *Orv.Hetil.* 144: 259-262.

Traber, M. G. (2004) The ABCs of vitamin E and beta-carotene absorption. *Am.J.Clin.Nutr.* 80: 3-4.

Trekli, M. C., Riss, G., Goralczyk, R. & Tyrrell, R. M. (2003) Beta-carotene suppresses UVA-induced HO-1 gene expression in cultured FEK4. *Free Radic.Biol.Med.* 34: 456-464.

Trombino, S., Serini, S., Di Nicuolo, F., Celleno, L., Ando, S., Picci, N., Calviello, G. & Palozza, P. (2004) Antioxidant effect of ferulic acid in isolated membranes and intact cells: synergistic interactions with alpha-tocopherol, beta-carotene, and ascorbic acid. *J.Agric.Food Chem.* 52: 2411-2420.

Tsushima, M., Maoka, T. & Matsuno, T. (2001) Structures of carotenoids with 5,6-dihydro-beta-end groups from the spindle shell *Fusinus perplexus*. *J.Nat.Prod.* 64: 1139-1142.

Uleckiene, S. & Domkiene, V. (2003) Investigation of ethyl alcohol and beta-carotene effect on two models of carcinogenesis. *Acta Biol.Hung.* 54: 89-93.

van Lieshout, M. (2001) Bioavailability and bioefficacy of beta-carotene measured using 13C-labeled beta-carotene and retinol: studies in Indonesian children, pp. 1-159. Wageningen University, Wageningen, Netherlands.

Varadi, G., Polyanka, H., Darko, E. & Lehoczki, E. (2003) Atrazine resistance entails a limited xanthophyll cycle activity, a lower PSII efficiency and an altered pattern of excess excitation dissipation. *Physiol.Plant.* 118: 47-56.

Velayos, A., Papp, T., Aguilar-Elena, R., Fuentes-Vicente, M., Eslava, A. P., Iturriaga, E. A. & Alvarez, M. I. (2003) Expression of the carG gene, encoding geranylgeranyl pyrophosphate synthase, is up-regulated by blue light in *Mucor circinelloides*. *Curr.Genet.* 43: 112-120.

Velmurugan, B., Bhuvaneswari, V. & Nagini, S. (2002) Antiperoxidative effects of lycopene during N-methyl-N'-nitro-N-nitrosoguanidine-induced gastric carcinogenesis. *Fitoterapia* 73: 604-611.

Wang, Z., Yin, S., Zhao, X., Russell, R. M. & Tang, G. (2004) beta-Carotene-vitamin A equivalence in Chinese adults assessed by an isotope dilution technique. *Br.J.Nutr.* 91: 121-131.

Weller, P. & Breithaupt, D. E. (2003) Identification and quantification of zeaxanthin esters in plants using liquid chromatography-mass spectrometry. *J.Agric.Food Chem.* 51: 7044-7049.

West, C. E., Eilander, A. & van Lieshout, M. (2003) Reply to Russell et al. *J.Nutr.* 133: 2917

Willcox, J. K., Catignani, G. L. & Lazarus, S. (2003) Tomatoes and cardiovascular health. *Crit.Rev.Food Sci.Nutr.* 43: 1-18.

Wisniewska, A., Draus, J. & Subczynski, W. K. (2003) Is a fluid-mosaic model of biological membranes fully relevant? Studies on lipid organization in model and biological membranes. *Cell Mol.Biol.Lett.* 8: 147-159.

Wright, M. E., Mayne, S. T., Swanson, C. A., Sinha, R. & Alavanja, M. C. (2003) Dietary carotenoids, vegetables, and lung cancer risk in women: the Missouri women's health study (United States). *Cancer Causes.Control.* 14: 85-96.

Xu, Y., Leo, M. A. & Lieber, C. S. (2003) Lycopene attenuates arachidonic acid toxicity in HepG2 cells overexpressing CYP2E1. *Biochem.Biophys.Res.Commun.* 303: 745-750.

Yokota, T., Etoh, H., Oshima, S., Hayakawa, K. & Ishiguro, Y. (2003) Oxygenated lycopene and dehydrated lutein in tomato puree. *Biosci.Biotechnol.Biochem.* 67: 2644-2647.

Zhu, S., Mason, J., Shi, Y., Hu, Y., Li, R., Wahg, M., Zhou, Y., Jin, G., Xie, Y., Wu, G., Xia, D., Qian, Z., Sohg, H., Zhang, L., Russell, R. & Xiao, S. (2003) The effect of folic acid on the development of stomach and other gastrointestinal cancers. *Chin.Med.J.(Engl).* 116: 15-19.

Zigmantas, D., Hiller, R. G., Sundstrom, V. & Polivka, T. (2002) Carotenoid to chlorophyll energy transfer in the peridinin-chlorophyll-a-protein complex involves an intramolecular charge transfer state. *Proc.Natl.Acad.Sci.U.S.A.* 99: 16760-16765.