

7. BIBLIOGRAFIA

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- Agullo, G., Gamet-Payrastre, L., Fernandez, Y., Anciaux, N., Demigne, C., and Remesy, C. (1996). Comparative effects of flavonoids on the growth, viability and metabolism of a colonic adenocarcinoma cell line (HT29 cells). *Cancer Lett.* 105, 61-70.
- Ahmad, N., Feyes, D. K., Nieminen, A. L., Agarwal, R., and Mukhtar, H. (1997). Green tea constituent epigallocatechin-3-gallate and induction of apoptosis and cell cycle arrest in human carcinoma cells. *J. Natl. Cancer Inst.* 89, 1881-1886.
- Ahmad, N., Cheng, P., and Mukhtar, H. (2000a). Cell cycle dysregulation by green tea polyphenol epigallocatechin-3-gallate. *Biochem. Biophys. Res. Commun.* 275, 328-334.
- Ahmad, N., Gupta, S., and Mukhtar, H. (2000b). Green tea polyphenol epigallocatechin-3-gallate differentially modulates nuclear factor kappa B in cancer cells versus normal cells. *Arch. Biochem. Biophys.* 376, 338-346.
- Alanko, J., Riutta, A., Holm, P., Mucha, I., Vapaatalo, H., and Metsa-Ketela, T. (1999). Modulation of arachidonic acid metabolism by phenols: relation to their structure and antioxidant/prooxidant properties. *Free Radic. Biol. Med.* 26, 193-201.
- Aruoma, O.I., Murcia, A., Butler, J., and Halliwell, B. (1993). Evaluation of the Antioxidant and Prooxidant Actions of Gallic Acid and Its Derivatives. *J. Agric. Food Chem.* 41, 1880-1885.
- Aubry, J.P., Blaecke, H., Lecoanet-Henchoz, S., Jeannin, P., Herbault, N., Caron, G., Moine, V., and Bonnefoy, J.Y. (1999). Annexin V used for measuring apoptosis in the early events of cellular cytotoxicity. *Cytometry* 37, 197-204.
- Azam, S., Hadi, N., Khan, N.U., and Hadi, S.M. (2004). Prooxidant property of green tea polyphenols epicatechin and epigallocatechin-3-gallate: implications for anticancer properties. *Toxicol. In Vitro* 18, 555-561.
- Baek, S.J., Kim, J.S., Jackson, F.R., Eling, T.E., McEntee, M.F., and Lee, S.H. (2004). Epicatechin gallate-induced expression of NAG-1 is associated with growth inhibition and apoptosis in colon cancer cells. *Carcinogenesis* 25, 2425-2432..
- Balasubramanian, S., Sturniolo, M.T., Dubyak, G.R., and Eckert, R.L. (2005). Human epidermal keratinocytes undergo (-)-epigallocatechin-3-gallate-dependent differentiation but not apoptosis. *Carcinogenesis* 17, 17.
- Bedner, E., Li, X., Gorczyca, W., Melamed, M.R., and Darzynkiewicz, Z. (1999). Analysis of apoptosis by laser scanning cytometry. *Cytometry* 35, 181-195.
- Blois, M.S. (1958). Antioxidant Determinations by the Use of a Stable Free Radical. *Nature* 181, 1199-1200.
- Brandwilliams, W., Cuvelier, M. E., and Berset, C. (1995). Use of a Free-Radical Method to Evaluate Antioxidant Activity. *Food Sci. Technol.-Lebensm-Wiss. Technol.* 28, 25-30.
- Bravo, L. (1998). Polyphenols: Chemistry, dietary sources, metabolism, and nutritional significance. *Nutr. Rev.* 56, 317-333.
- Briviba, K., Pan, L., and Rechkemmer, G. (2002). Red wine polyphenols inhibit the growth of colon carcinoma cells and modulate the activation pattern of mitogen-activated protein kinases. *J. Nutr.* 132, 2814-2818.

- Bronner, W.E., and Beecher, G.R. (1998). Method for determining the content of catechins in tea infusions by high-performance liquid chromatography. *J. Chromatogr. A* 805, 137-142.
- Burke, T.W.L., Mant, C.T., Black, J.A., and Hodges, R.S. (1989). Strong cation-exchange high-performance liquid chromatography of peptides. Effect of non-specific hydrophobic interactions and linearization of peptide retention behaviour. *J. Chromatogr.* 476, 377-389.
- Buttke, T.M., and Sandstrom, P.A. (1994). Oxidative stress as a mediator of apoptosis. *Immunol. Today* 15, 7-10.
- Cadena, E., and Davies, K.J.A. (2000). Mitochondrial free radical generation, oxidative stress, and aging. *Free Radic. Biol. Med.* 29, 222-230.
- Camm, E.L., McCallum, J., Leaf, E., and Koupaiabyazani, M.R. (1993). Cold-Induced Purpling of Pinus-Contorta Seedlings Depends on Previous Daylength Treatment. *Plant Cell Environ.* 16, 761-764.
- Cao, G.H., Sofic, E., and Prior, R.L. (1997). Antioxidant and prooxidant behavior of flavonoids: Structure-activity relationships. *Free Radic. Biol. Med.* 22, 749-760.
- Cao, X.L., Tian, Y., Zhang, T.Y., and Ito, Y. (2000). Supercritical fluid extraction of catechins from Cratoxylum prunifolium Dyer and subsequent purification by high-speed counter-current chromatography. *J. Chromatogr. A* 898, 75-81.
- Chang, C.M.J., Chiu, K.L., Chen, Y.L., and Chang, C.. (2000). Separation of catechins from green tea using carbon dioxide extraction. *Food Chem.* 68, 109-113.
- Chen, Z.P., Schell, J.B., Ho, C.T., and Chen, K.Y. (1998). Green tea epigallocatechin gallate shows a pronounced growth inhibitory effect on cancerous cells but not on their normal counterparts. *Cancer Lett.* 129, 173-179.
- Cheynier, V. (2005). Polyphenols in foods are more complex than often thought. *Am. J. Clin. Nutr.* 81, 223S-229S.
- Chinni, S.R., Li, Y., Upadhyay, S., Koppolu, P.K., and Sarkar, F.H. (2001). Indole-3-carbinol (I3C) induced cell growth inhibition, G1 cell cycle arrest and apoptosis in prostate cancer cells. *Oncogene* 20, 2927-2936.
- Chung, J.H., Han, J.H., Hwang, E.J., Seo, J.Y., Cho, K.H., Kim, K.H., Youn, J.I., and Eun, H.C. (2003). Dual mechanisms of green tea extract (EGCG)-induced cell survival in human epidermal keratinocytes. *FASEB J.* 17, 1913-1915.
- Chung, J.Y., Park, J. O., Phy, H., Dong, Z. G., and Yang, C. S. (2001). Mechanisms of inhibition of the Ras-MAP kinase signaling pathway in 30.7b Ras 12 cells by tea polyphenols (-)-epigallocatechin-3-gallate and theaflavin-3,3'-digallate. *FASEB J.* 15, U191-U208.
- Coen, C. J., Blanch, H.W., and Prausnitz, J.M. (1995). Salting-out of Aqueous Proteins - Phase-Equilibria and Intermolecular Potentials. *Aiche J.* 41, 996-1004.
- Comin-Anduix, B., Agell, N., Bachs, O., Ovadi, J., and Cascante, M. (2001). A new bis-indole, KARs, induces selective M arrest with specific spindle aberration in neuroblastoma cell line SH-SY5Y. *Mol. Pharmacol.* 60, 1235-1242.

- Comin-Anduix, B., Boros, L.G., Marin, S., Boren, J., Callol-Massot, C., Centelles, J.J., Torres, J.L., Agell, N., Bassilian, S., and Cascante, M. (2002). Fermented wheat germ extract inhibits glycolysis/pentose cycle enzymes and induces apoptosis through poly(ADP-ribose) polymerase activation in Jurkat T-cell leukemia tumor cells. *J. Biol. Chem.* 277, 46408-46414.
- Cooper-Driver, G.A., and Bhattacharya, M. (1998). Role of phenolics in plant evolution. *Phytochemistry* 49, 1165-1174.
- Cos, P., Bruyne, T.D., Hermans, N., Apers, S., Berghe, D.V., and Vlietinck, A.J. (2004). Proanthocyanidins in Health Care: Current and New Trends. *Curr. Med. Chem.* 11, 1345-1359.
- Cui, H., He, C.X., and Zhao, G.W. (1999). Determination of polyphenols by high-performance liquid chromatography with inhibited chemiluminescence detection. *J. Chromatogr. A* 855, 171-179.
- Daigle, D.J., and Conkerton, E.J. (1988). Analysis of Flavonoids by HPLC - An update. *J. Liq. Chromatogr.* 11, 309-325.
- Dalluge, J.J., Nelson, B.C., Thomas, J.B., and Sander, L.C. (1998). Selection of column and gradient elution system for the separation of catechins in green tea using high-performance liquid chromatography. *J. Chromatogr. A* 793, 265-274.
- Dangles, O., Fargeix, G., and Dufour, C. (1999). One-electron oxidation of quercetin and quercetin derivatives in protic and non protic media. *J. Chem. Soc.-Perkin Trans.* 2, 1387-1395.
- Dangles, O., Fargeix, G., and Dufour, C. (2000). Antioxidant properties of anthocyanins and tannins: a mechanistic investigation with catechin and the 3',4',7-trihydroxyflavylium ion. *J. Chem. Soc.-Perkin Trans.* 2, 1653-1663.
- Danial, N.N., and Korsmeyer, S.J. (2004). Cell death: Critical control points. *Cell* 116, 205-219.
- Darzynkiewicz, Z., Juan, G., Li, X., Gorczyca, W., Murakami, T., and Traganos, F. (1997). Cytometry in cell necrobiology: analysis of apoptosis and accidental cell death (necrosis). *Cytometry* 27, 1-20.
- Dauer, A., Rimpler, H., and Hensel, A. (2003). Polymeric proanthocyanidins from the bark of Hamamelis virginiana. *Planta Med.* 69, 89-91.
- de Pascual-Teresa, S., Treutter, D., Rivas-Gonzalo, J.C., and Santos-Buelga, C. (1998). Analysis of flavanols in beverages by high-performance liquid chromatography with chemical reaction detection. *J. Agric. Food Chem.* 46, 4209-4213.
- Delaunay, J.C., Castagnino, C., Cheze, C., and Vercauteren, J. (2002). Preparative isolation of polyphenolic compounds from Vitis vinifera by centrifugal partition chromatography. *J. Chromatogr. A* 964, 123-128.
- Deprez, S., Brezillon, C., Rabot, S., Philippe, C., Mila, I., Lapierre, C., and Scalbert, A. (2000). Polymeric proanthocyanidins are catabolized by human colonic microflora into low-molecular-weight phenolic acids. *J. Nutr.* 130, 2733-2738.
- Deters, A., Dauer, A., Schnetz, E., Fartasch, M., and Hensel, A. (2001). High molecular compounds (polysaccharides and proanthocyanidins) from Hamamelis virginiana

- bark: influence on human skin keratinocyte proliferation and differentiation and influence on irritated skin. *Phytochemistry* 58, 949-958.
- Diplock, A.T., Charleux, J.L., Crozier-Willi, G., Kok, F.J., Rice-Evans, C., Roberfroid, M., Stahl, W., and Vina-Ribes, J. (1998). Functional food science and defence against reactive oxidative species. *Br. J. Nutr.* 80 Suppl 1, S77-112.
 - Dougherty, D.A. (1996). Cation-pi interactions in chemistry and biology: a new view of benzene, Phe, Tyr, and Trp. *Science* 271, 163-168.
 - Doyle, A., Griffiths, J.B., and Newell, D.G. (1995). Cell & tissue culture: Laboratory procedures. (Salisbury, UK, Jonh Wiley & Sons Ltd.).
 - Eckert, R.L., Crish, J.F., Efimova, T., and Balasubramanian, S. (2004). Antioxidants regulate normal human keratinocyte differentiation. *Biochem. Pharmacol.* 68, 1125-1131.
 - Elbling, L., Weiss, R.M., Teufelhofer, O., Uhl, M., Knasmueller, S., Schulte-Hermann, R., Berger, W., and Mickshe, M. (2005). Green tea extract and (-)-epigallocatechin-3-gallate, the major tea catechin, exert oxidant but lack antioxidant activities. *FASEB J.* 19.
 - Elliott, W.H., and Elliott, D.C. (2005). Biochemistry and Molecular Biology, third edn (New York, Oxford University Press Inc.).
 - Ermakova, S., Choi, B.Y., Choi, H.S., Kang, B.S., Bode, A.M., and Dong, Z.G. (2005). The intermediate filament protein vimentin is a new target for epigallocatechin gallate. *J. Biol. Chem.* 280, 16882-16890.
 - Evan, G.I., and Vousden, K.H. (2001). Proliferation, cell cycle and apoptosis in cancer. *Nature* 411, 342-348.
 - Fernandez-Recio, J., Romero, A., and Sancho, J. (1999). Energetics of a hydrogen bond (charged and neutral) and of a cation-pi interaction in apoflavodoxin. *J. Mol. Biol.* 290, 319-330.
 - Ferreira, D., and Li, X.C. (2000). Oligomeric proanthocyanidins: naturally occurring O-heterocycles. *Nat. Prod. Rep.* 17, 193-212.
 - Ferreira, D., Nell, R.J.J., and Bekker, R. (1999). Condensed tannins. Comprehensive *Nat. Prod. Chem.* Vol.3, 747-797.
 - Ferrer, J.L., Jez, J.M., Bowman, M.E., Dixon, R.A., and Noel, J.P. (1999). Structure of chalcone synthase and the molecular basis of plant polyketide biosynthesis. *Nat. Struct. Biol.* 6, 775-784.
 - Foo, L.Y., Newman, R., Waghorn, G., McNabb, W.C., and Ulyatt, M.J. (1996). Proanthocyanidins from *Lotus corniculatus*. *Phytochemistry* 41, 617-624.
 - Foti, M.C., Daquino, C., and Geraci, C. (2004). Electron-transfer reaction of cinnamic acids and their methyl esters with the DPPH center dot radical in alcoholic solutions. *J. Org. Chem.* 69, 2309-2314.
 - Furuno, K., Akasako, T., and Sugihara, N. (2002). The contribution of the pyrogallol moiety to the superoxide radical scavenging activity of flavonoids. *Biol. Pharm. Bull.* 25, 19-23.

- Gerschenson, L.E., and Rotello, R.J. (1992). Apoptosis: a different type of cell death. *FASEB J.* 6, 2450-2455.
- Glasel, J.A. (1995). Validity of Nucleic-Acid Purities Monitored by 260nm 280nm Absorbency Ratios. *Biotechniques* 18, 62-63.
- Green, D.R. (2000). Apoptotic pathways: paper wraps stone blunts scissors. *Cell* 102, 1-4.
- Guo, Q., Zhao, B., Li, M., Shen, S., and Xin, W. (1996). Studies on protective mechanisms of four components of green tea polyphenols against lipid peroxidation in synaptosomes. *Biochim. Biophys. Acta* 1304, 210-222.
- Gupta, S., Hastak, K., Afaq, F., Ahmad, N., and Mukhtar, H. (2004). Essential role of caspases in epigallocatechin-3-gallate-mediated inhibition of nuclear factor kappa B and induction of apoptosis. *Oncogene* 23, 2507-2522.
- Gupta, S., Hussain, T., and Mukhtar, H. (2003). Molecular pathway for (-)-epigallocatechin-3-gallate-induced cell cycle arrest and apoptosis of human prostate carcinoma cells. *Arch. Biochem. Biophys.* 410, 177-185.
- Halliwell, B. (1995). Antioxidant Characterization - Methodology and Mechanism. *Biochem. Pharmacol.* 49, 1341-1348.
- Hanahan, D., and Weinberg, R.A. (2000). The hallmarks of cancer. *Cell* 100, 57-70.
- Harborne, J.B. (1989). *Plant phenolics* (London, Academic Press).
- Harborne, J.B., and Williams, C.A. (2000). Advances in flavonoid research since 1992. *Phytochemistry* 55, 481-504.
- Harbowy, M.E., and Balentine, D.A. (1997). Tea chemistry. *Crit. Rev. Plant Sci.* 16, 415-480.
- Hassig, A., Liang, W.X., Schwabl, H., and Stampfli, K. (1999). Flavonoids and tannins: plant-based antioxidants with vitamin character. *Med. Hypotheses* 52, 479-481.
- Hatano, T., and Hemingway, R.W. (1997). Conformational isomerism of phenolic procyanidins: Preferred conformations in organic solvents and water. *J. Chem. Soc.-Perkin Trans.* 2, 1035-1043.
- Heim, K.E., Tagliaferro, A.R., and Bobilya, D.J. (2002). Flavonoid antioxidants: chemistry, metabolism and structure-activity relationships. *J. Nutr. Biochem.* 13, 572-584.
- Hemingway, R.W., Foo, L.Y., and Porter, L.J. (1982). Linkage Isomerism in Trimeric and Polymeric 2,3-Cis-Procyanidins. *J. Chem. Soc.-Perkin Trans.* 1, 1209-1216.
- Hemingway, R.W., Tobiason, F.L., McGraw, G.W., and Steynberg, J.P. (1996). Conformation and complexation of tannins: NMR spectra and molecular search modeling of flavan-3-ols. *Mang. Reson. Chem.* 34, 424-433.
- Hengartner, M.O. (2000). The biochemistry of apoptosis. *Nature* 407, 770-776.
- Herrero-Martinez, J. M., Rafols, C., Roses, M., Bosch, E., Lozano, C., and Torres, J. L. (2003). Micellar electrokinetic chromatography estimation of size and composition of procyanidins after thiolysis with cysteine. *Electrophoresis* 24, 1404-1410.

- Hsu, S., Lewis, J., Singh, B., Schoenlein, P., Osaki, T., Athar, M., Porter, A.G., and Schuster, G. (2003). Green tea Polyphenol targets the mitochondria in tumor cells inducing caspase 3-dependent apoptosis. *Anticancer Res.* 23, 1533-1539.
- Huang, C.C., Fang, J.Y., Wu, W.B., Chiang, H.S., Wei, Y.J., and Hung, C.F. (2005). Protective effects of (-)-epicatechin-3-gallate on UVA-induced damage in HaCaT keratinocytes. *Arch. Dermatol. Res.* 296, 473-481.
- Jacob, R.A., and Burri, B.J. (1996). Oxidative damage and defense. *Am. J. Clin. Nutr.* 63, 985S-990S.
- Jemal, A., Murray, T., Ward, E., Samuels, A., Tiwari, R.C., Ghafoor, A., Feuer, E.J., and Thun, M.J. (2005). Cancer statistics, 2005. *CA Cancer J. Clin.* 55, 10-30.
- Johnstone, R.W., Ruefli, A.A., and Lowe, S.W. (2002). Apoptosis: a link between cancer genetics and chemotherapy. *Cell* 108, 153-164.
- Jung, Y.D., and Ellis, L.M. (2001). Inhibition of tumour invasion and angiogenesis by epigallocatechin gallate (EGCG), a major component of green tea. *Int. J. Exp. Pathol.* 82, 309-316.
- Katiyar, S.K., and Mukhtar, H. (1997). Tea antioxidants in cancer chemoprevention. *J. Cell. Biochem. Suppl.* 27, 59-67.
- Katiyar, S.K., Ahmad, N., and Mukhtar, H. (2000). Green tea and skin. *Arch. Dermatol.* 136, 989-994.
- Kazi, A., Smith, D.M., Zhong, Q., and Dou, Q.P. (2002). Inhibition of bcl-x(l) phosphorylation by tea polyphenols or epigallocatechin-3-gallate is associated with prostate cancer cell apoptosis. *Mol. Pharmacol.* 62, 765-771.
- Kennedy, J.A., and Jones, G.P. (2001). Analysis of proanthocyanidin cleavage products following acid-catalysis in the presence of excess phloroglucinol. *J. Agric. Food Chem.* 49, 1740-1746.
- Khan, A.U., and Wilson, T. (1995). Reactive oxygen species as cellular messengers. *Chem. Biol.* 2, 437-445.
- Khanbabae, K., and van Ree, T. (2001). Tannins: Classification and definition. *Nat. Prod. Rep.* 18, 641-649.
- Koes, R.E., Quattrocchio, F., and Mol, J. N. M. (1994). The Flavonoid Biosynthetic-Pathway in Plants - Function and Evolution. *Bioessays* 16, 123-132.
- Kolibaba, K.S., and Druker, B.J. (1997). Protein tyrosine kinases and cancer. *Biochim. Biophys. Acta* 1333, F217-248.
- Kondo, H., Park, S.H., Watanabe, K., Yamamoto, Y., and Akashi, M. (2004). Polyphenol (-)-epigallocatechin gallate inhibits apoptosis induced by irradiation in humian HaCaT keratinocytes. *Biochem. Biophys. Res. Commun.* 316, 59-64.
- Kondo, K., Kurihara, M., Miyata, N., Suzuki, T., and Toyoda, M. (1999a). Mechanistic studies of catechins as antioxidants against radical oxidation. *Arch. Biochem. Biophys.* 362, 79-86.
- Kondo, K., Kurihara, M., Miyata, N., Suzuki, T., and Toyoda, M. (1999b). Scavenging mechanisms of (-)-epigallocatechin gallate and (-)-epicatechin gallate on peroxy

- radicals and formation of superoxide during the inhibitory action. *Free Radic. Biol. Med.* 27, 855-863.
- Kondo, K., Kurihara, M., and Fukuhara, K. (2001). Mechanism of antioxidant effect of catechins. *Methods Enzymol.* 335, 203-217.
 - Koopman, G., Reutelingsperger, C.P.M., Kuijten, G.A.M., Keehnen, R.M.J., Pals, S.T., and Vanoers, M.H.J. (1994). Annexin-V for Flow Cytometric Detection of Phosphatidylserine Expression on B-Cells Undergoing Apoptosis. *Blood* 84, 1415-1420.
 - Kovacic, P., and Osuna, J.A., (2000). Mechanisms of anti-cancer agents: emphasis on oxidative stress and electron transfer. *Curr. Pharm. Des.* 6, 277-309.
 - Kovacic, P., and Jacintho, J. D. (2001). Mechanisms of carcinogenesis: Focus on oxidative stress and electron transfer. *Curr. Med. Chem.* 8, 773-796.
 - Kovacic, P., Sacman, A., and Wu-Weis, M. (2002). Nephrotoxins: Widespread role of oxidative stress and electron transfer. *Curr. Med. Chem.* 9, 823-847.
 - Kovacic, P. (2005). Role of oxidative metabolites of cocaine in toxicity and addiction: oxidative stress and electron transfer. *Med. Hypotheses* 64, 350-356.
 - Kreuzaler, F., and Hahlbrock, K. (1975). Enzymic-Synthesis of an Aromatic Ring from Acetate Units - Partial-Purification and Some Properties of Flavanone Synthase from Cell-Suspension Cultures of Petroselinum-Hortense. *Eur. J. Biochem.* 56, 205-213.
 - Krishan, A. (1975). Rapid Flow Cytofluorometric Analysis of Mammalian-Cell Cycle by Propidium Iodide Staining. *J. Cell Biol.* 66, 188-193.
 - Kuroda, Y., and Hara, Y. (1999). Antimutagenic and anticarcinogenic activity of tea polyphenols. *Rev. Mut. Res.* 436, 69-97.
 - Lalaguna, F. (1993). Purification of Fresh Cassava Root Polyphenols by Solid-Phase Extraction with Amberlite Xad-8 Resin. *J. Chromatogr. A* 657, 445-449.
 - Larger, P. J., Jones, A. D., and Dacombe, C. (1998). Separation of tea polyphenols using micellar electrokinetic chromatography with diode array detection. *J. Chromatogr. A* 799, 309-320.
 - Latt, S.A., and Stetten, G. (1976). Spectral Studies on 33258-Hoechst and Related Bisbenzimidazole Dyes Useful for Fluorescent Detection of Deoxyribonucleic-Acid Synthesis. *J. Histochem. Cytochem.* 24, 24-33.
 - Levi, M.S., and Brimble, M.A. (2004). A Review of Neuroprotective Agents. *Curr. Med. Chem.* 11, 2383-2397.
 - Ley, R., and Reeve, V. (1997). Chemoprevention of ultraviolet radiation-induced. *Environ. Health Perspect.* 105, 981-984.
 - Li, Y.Z., Sun, X.G., LaMont, J.T., Pardee, A.B., and Li, C.J. (2003). Selective killing of cancer cells by beta-lapachone: Direct checkpoint activation as a strategy against cancer. *Proc. Natl. Acad. Sci. USA* 100, 2674-2678.
 - Liberto, M., and Cobrinik, D. (2000). Growth factor-dependent induction of p21(CIP1) by the green tea polyphenol, epigallocatechin gallate. *Cancer Lett.* 154, 151-161.

- Li-Hsun, C., Ya-Chuan, C., and Chieh-Ming, C. (2004). Extracting and purifying isoflavones from defatted soybean flakes using superheated water at elevated pressures. *Food Chem.* 84, 279-285.
- Litowski, J.R., Semchuk, P.D., Mant, C.T., and Hodges, R.S. (1999). Hydrophilic interaction/cation-exchange chromatography for the purification of synthetic peptides from closely related impurities: serine side-chain acetylated peptides. *J. Peptide Res.* 54, 1-11.
- Liu, Y., Fiskum, G., and Schubert, D. (2002). Generation of reactive oxygen species by the mitochondrial electron transport chain. *J. Neurochem.* 80, 780-787.
- Long, L.H., Clement, M.V., and Halliwell, B. (2000). Artifacts in cell culture: rapid generation of hydrogen peroxide on addition of (-)-epigallocatechin, (-)-epigallocatechin gallate, (+)-catechin, and quercetin to commonly used cell culture media. *Biochem. Biophys. Res. Commun.* 273, 50-53.
- Lozano, C., Cascante, M., and Torres, J.L. (2002). Cation-exchange micropreparative separation of galloylated and non-galloylated sulphur conjugated catechins. *J. Chromatogr. A* 973, 229-234.
- Lozano, C., Torres, J.L., Julia, L., Jimenez, A., Centelles, J.J., and Cascante, M. (2005). Effect of new antioxidant cysteinyl-flavanol conjugates on skin cancer cells. *FEBS Lett.* 579, 4219-4225.
- Manach, C., Scalbert, A., Morand, C., Remesy, C., and Jimenez, L. (2004). Polyphenols: food sources and bioavailability. *Am. J. Clin. Nutr.* 79, 727-747.
- Maniatis, T., Fritsch, E.T., and Sambrook, J. (1989). Molecular cloning: A laboratory manual (New York, Cold Spring Harbor).
- Manson, M.M., Holloway, K.A., Howells, L.M., Hudson, E.A., Plummer, S.M., Squires, M.S., and Prigent, S.A. (2000). Modulation of signal-transduction pathways by chemopreventive agents. *Biochem. Soc. Trans.* 28, 7-12.
- Mant, C.T., Litowski, J.R., and Hodges, R.S. (1998). Hydrophilic interaction/cation-exchange chromatography for separation of amphipathic [alpha]-helical peptides. *J. Chromatogr. A* 816, 65-78.
- Manthey, J.A., and Grohmann, K. (2001). Phenols in citrus peel byproducts. Concentrations of hydrogycinnamates and polymethoxylated flavones in citrus peel molasses. *J. Agric. Food Chem.* 49, 3268-3273.
- Mates, J.M., and Sanchez-Jimenez, F.M. (2000). Role of reactive oxygen species in apoptosis: implications for cancer therapy. *Int. J. Biochem. Cell. Biol.* 32, 157-170.
- Matthews, S., Mila, I., Scalbert, A., Pollet, B., Lapierre, C., duPenhoat, C., Rolando, C., and Donnelly, D.M.X. (1997). Method for estimation of proanthocyanidins based on their acid depolymerization in the presence of nucleophiles. *J. Agric. Food Chem.* 45, 1195-1201.
- McDonald, E.R., 3rd, and El-Deiry, W.S. (2000). Cell cycle control as a basis for cancer drug development. *Int. J. Oncol.* 16, 871-886.
- Merken, H.M., and Beecher, G.R. (2000). Measurement of food flavonoids by high-performance liquid chromatography: A review. *J. Agric. Food Chem.* 48, 577-599.

- Mochizuki, M., Yamazaki, S., Kano, K., and Ikeda, T. (2002). Kinetic analysis and mechanistic aspects of autoxidation of catechins. *Biochim. Biophys. Acta* 1569, 35-44.
- Montague, J.W., and Cidlowski, J.A. (1996). Cellular catabolism in apoptosis: DNA degradation and endonuclease activation. *Experientia* 52, 957-962.
- Mosmann, T. (1983). Rapid colorimetric assay for cellular growth and survival: application to proliferation and cytotoxicity assays. *J. Immunol. Methods* 65, 55-63.
- Neckers, L., and Lee, Y.S. (2003). Cancer: the rules of attraction. *Nature* 425, 357-359.
- Ness, A.R., and Powles, J.W. (1997). Fruit and vegetables, and cardiovascular disease: A review. *Int. J. Epidemiol.* 26, 1-13.
- Noh, J.S., Kim, E.Y., Kang, J.S., Kim, H.R., Oh, Y.J., and Gwag, B.J. (1999). Neurotoxic and neuroprotective actions of catecholamines in cortical neurons. *Exp. Neurol.* 159, 217-224.
- Nwuha, V. (2000). Novel studies on membrane extraction of bioactive components of green tea in organic solvents: part I. *J. Food Eng.* 44, 233-238.
- Ormerod, M.G. (2002). Investigating the relationship between the cell cycle and apoptosis using flow cytometry. *J. Immunol. Methods* 265, 73-80.
- Ortega, S., Malumbres, M., and Barbacid, M. (2002). Cyclin D-dependent kinases, INK4 inhibitors and cancer. *Biochim. Biophys. Acta* 1602, 73-87.
- Owa, T., Yoshino, H., Yoshimatsu, K., and Nagasu, T. (2001). Cell cycle regulation in the G1 phase: a promising target for the development of new chemotherapeutic anticancer agents. *Curr. Med. Chem.* 8, 1487-1503.
- Packer, L., Rimbach, G., and Virgili, F. (1999). Antioxidant activity and biologic properties of a procyanidin-rich extract from pine (*Pinus maritima*) bark, pycnogenol. *Free Radic. Biol. Med.* 27, 704-724.
- Park, K.H., Choi, H.O., Jang, D.D., Park, Y.I., and Park, K.C. (2001). Downregulation of Bcl-2 and activation of caspase-8 in the UVB-induced apoptosis of a cultured human melanoma cell line. *Photodermatol. Photoimmunol. Photomed.* 17, 218-222.
- Pelicano, H., Feng, L., Zhou, Y., Carew, J.S., Hileman, E.O., Plunkett, W., Keating, M.J., and Huang, P. (2003). Inhibition of mitochondrial respiration: a novel strategy to enhance drug-induced apoptosis in human leukemia cells by a reactive oxygen species-mediated mechanism. *J. Biol. Chem.* 278, 37832-37839.
- Plumb, G.W., De Pascual-Teresa, S., Santos-Buelga, C., Cheynier, V., and Williamson, G. (1998). Antioxidant properties of catechins and proanthocyanidins: Effect of polymerisation, galloylation and glycosylation. *Free Radic. Res.* 29, 351-358.
- Polya, G.M., and Foo, L.Y. (1994). Inhibition of eukaryote signal-regulated protein kinases by plant-derived catechin-related compounds. *Phytochemistry* 35, 1399-1405.
- Porter, L.J., Newman, R.H., Foo, L.Y., Wong, H., and Hemingway, R.W. (1982). Polymeric Proanthocyanidins - C-13 Nmr-Studies of Procyanidins. *J. Chem. Soc.-Perkin Trans. 1*, 1217-1221.
- Prieur, C., Rigaud, J., Cheynier, V., and Moutounet, M. (1994). Oligomeric and polymeric procyanidins from grape seeds. *Phytochemistry* 36, 781-784.

- Pucci, B., Kasten, M., and Giordano, A. (2000). Cell cycle and apoptosis. *Neoplasia* 2, 291-299.
- Revilla, E., Garcia-Beneytez, E., Cabello, F., Martin-Ortega, G., and Ryan, J.M. (2001). Value of high-performance liquid chromatographic analysis of anthocyanins in the differentiation of red grape cultivars and red wines made from them. *J. Chromatogr. A* 915, 53-60.
- Rice-Evans, C. (2001). Flavonoid antioxidants. *Curr. Med. Chem.* 8, 797-807.
- Rice-Evans, C., Miller, N.J., and Paganga, G. (1996). Structure-antioxidant activity relationships of flavonoids and phenolic acids. *Free Radic. Biol. Med.* 20, 933-956.
- Rich, T., Watson, C.J., and Wyllie, A. (1999). Apoptosis: the germs of death. *Nat. Cell. Biol.* 1, E69-71.
- Rigaud, J., Perezilzarbe, J., Dasilva, J. M. R., and Cheynier, V. (1991). Micro Method for the Identification of Proanthocyanidin Using Thiolysis Monitored by High-Performance Liquid-Chromatography. *J. Chromatogr.* 540, 401-405.
- Ritter, S.K. (2001). Green Chemistry. *Chem. Eng. News*, 27-34.
- Robards, K., Li, X., Antolovich, M., and Boyd, S. (1997). Characterisation of citrus by chromatographic analysis of flavonoids. *J. Sci. Food Agric.* 75, 87-101.
- Rodriguez, J., Yanez, J., Vicente, V., Alcaraz, M., Benavente-Garcia, O., Castillo, J., Lorente, J., and Lozano, J.A. (2002). Effects of several flavonoids on the growth of B16F10 and SK-MEL-1 melanoma cell lines: relationship between structure and activity. *Melanoma Res.* 12, 99-107.
- Roginsky, V., and Alegria, A.E. (2005). Oxidation of tea extracts and tea catechins by molecular oxygen. *J. Agric. Food Chem.* 53, 4529-4535.
- Ross, J.A., and Kasum, C.M. (2002). Dietary flavonoids: Bioavailability, metabolic effects, and safety. *Ann. Rev. Nutr.* 22, 19-34.
- Saeki, K., Kobayashi, N., Inazawa, Y., Zhang, H., Nishitoh, H., Ichijo, H., Isemura, M., and Yuo, A. (2002). Oxidation-triggered c-Jun N-terminal kinase (JNK) and p38 mitogen-activated protein (MAP) kinase pathways for apoptosis in human leukaemic cells stimulated by epigallocatechin-3-gallate (EGCG): a distinct pathway from those of chemically induced and receptor-mediated apoptosis. *Biochem. J.* 368, 705-720.
- Saito, K., and Yamazaki, M. (2002). Biochemistry and molecular biology of the late-stage of biosynthesis of anthocyanin: lessons from Perilla frutescens as a model plant. *New Phytol.* 155, 9-23.
- Salucci, M., Stivala, L.A., Maiani, G., Bugianesi, R., and Vannini, V. (2002). Flavonoids uptake and their effect on cell cycle of human colon adenocarcinoma cells (Caco2). *Br. J. Cancer* 86, 1645-1651.
- Sang, S., Cheng, X., Stark, R.E., Rosen, R.T., Yang, C.S., and Ho, C.T. (2002). Chemical studies on antioxidant mechanism of tea catechins: analysis of radical reaction products of catechin and epicatechin with 2,2-diphenyl-1-picrylhydrazyl. *Bioorg. Med. Chem.* 10, 2233-2237.
- Scalbert, A., Morand, C., Manach, C., and Remesy, C. (2002). Absorption and metabolism of polyphenols in the gut and impact on health. *Biomed. Pharmacother.* 56, 276-282.

- Schieber, A., Stintzing, F.C., and Carle, R. (2001). By-products of plant food processing as a source of functional compounds - recent developments. *Trends Food Sci. Technol.* 12, 401
- Schroeter, H., Spencer, J.P., Rice-Evans, C., and Williams, R.J. (2001). Flavonoids protect neurons from oxidized low-density-lipoprotein-induced apoptosis involving c-Jun N-terminal kinase (JNK), c-Jun and caspase-3. *Biochem. J.* 358, 547-557.
- Scordino, M., Di Mauro, A., Passerini, A., and Maccarone, E. (2005). Selective recovery of anthocyanins and hydroxycinnamates from a byproduct of citrus processing. *J. Agric. Food Chem.* 53, 651-658.
- Sears, K.D., and Casebier, R.L. (1968). Cleavage of Proanthocyanidins with Thioglycollic Acid. *Chem. Commun.*, 1437-1438.
- Selga, A., Sort, X., Bobet, R., and Torres, J.L. (2004). Efficient one pot extraction and depolymerization of grape (*Vitis vinifera*) pomace procyanidins for the preparation of antioxidant thio-conjugates. *J. Agric. Food Chem.* 52, 467-473.
- Serrano, L., Bycroft, M., and Fersht, A. R. (1991). Aromatic Aromatic Interactions and Protein Stability - Investigation by Double-Mutant Cycles. *J. Mol. Biol.* 218, 465-475.
- Shapiro, H.M. (1981). Flow Cytometric Estimation of DNA and RNA-Content in Intact-Cells Stained with Hoechst-33342 and Pyronin-Y. *Cytometry* 2, 143-150.
- Sherr, C.J. (1996). Cancer cell cycles. *Science* 274, 1672-1677.
- Shirley, B.W. (1996). Flavonoid biosynthesis: 'New' functions for an 'old' pathway. *Trends Plant Sci.* 1, 377-382.
- Slater, A.F., Nobel, C.S., and Orrenius, S. (1995). The role of intracellular oxidants in apoptosis. *Biochim. Biophys. Acta* 1271, 59-62.
- Soleas, G.J., Diamandis, E.P., and Goldberg, D.M. (1997). Wine as a biological fluid: history, production, and role in disease prevention. *J. Clin. Lab. Anal.* 11, 287-313.
- Soriano, M., Rice-Evans, C., and Tyrrell, R.M. (1998). Modulation of the UVA activation of haem oxygenase, collagenase and cyclooxygenase gene expression by epigallocatechin in human skin cells. *FEBS Lett.* 439, 253-257.
- Souquet, J.M., Cheynier, V., Brossaud, F., and Moutounet, M. (1996). Polymeric proanthocyanidins from grape skins. *Phytochemistry* 43, 509-512.
- Souquet, J.M., Labarbe, B., Le Guerneve, C., Cheynier, V., and Moutounet, M. (2000). Phenolic composition of grape stems. *J. Agric. Food Chem.* 48, 1076-1080.
- Spencer, J.P.E., El Mohsen, M.M.A., and Rice-Evans, C. (2004). Cellular uptake and metabolism of flavonoids and their metabolites: implications for their bioactivity. *Arch. Biochem. Biophys.* 423, 148-161.
- Springob, K., Nakajima, J., Yamazaki, M., and Saito, K. (2003). Recent advances in the biosynthesis and accumulation of anthocyanins. *Nat. Prod. Report* 20, 288-303.
- Sun, B.S., Leandro, C., da Silva, J.M.R., and Spranger, I. (1998). Separation of grape and wine proanthocyanidins according to their degree of polymerization. *J. Agric. Food Chem.* 46, 1390-1396.

- Takahashi, H., Kosaka, M., Watanabe, Y., Nakade, K., and Fukuyama, Y. (2003). Synthesis and neuroprotective activity of bergenin derivatives with antioxidant activity. *Bioorg. Med. Chem.* 11, 1781-1788.
- Tan, X., Hu, D., Li, S., Han, Y., Zhang, Y., and Zhou, D. (2000). Differences of four catechins in cell cycle arrest and induction of apoptosis in LoVo cells. *Cancer Lett.* 158, 1-6.
- Tanaka, T., Kusano, R., and Kouno, I. (1998). Synthesis and antioxidant activity of novel amphipathic derivatives of tea polyphenol. *Bioorg. Med. Chem. Lett.* 8, 1801-1806.
- Thompson, R.S., Jacques, D., and Haslam, E. (1972). Plant Proanthocyanidins. Part I. Introduction; the isolation, structure, and distribution in Nature of plant procyanidins. *J. Chem. Soc. Perkin Trans. I*, 1387-1399.
- Torres, J.L., Lozano, C. (2001a). Chromatographic characterization of proanthocyanidins after thiolysis with cysteamine. *Chromatographia* 54, 523-526.
- Torres, J.L., and Bobet, R. (2001b). New flavanol derivatives from grape (*Vitis vinifera*) byproducts. Antioxidant aminoethylthio-flavan-3-ol conjugates from a polymeric waste fraction used as a source of flavanols. *J. Agric. Food Chem.* 49, 4627-4634.
- Torres, J.L., Piera, E., Infante, M.R., and Clapes, P. (2001c). Purification of non-toxic, biodegradable arginine-based gemini surfactants, bis(Args), by ion exchange chromatography. *Prep. Biochem. Biotechnol.* 31, 259-274.
- Torres, J.L., Lozano, C., Julia, L., Sanchez-Baeza, F.J., Anglada, J.M., Centelles, J.J., and Cascante, M. (2002a). Cysteinyl-flavan-3-ol conjugates from grape procyanidins. Antioxidant and antiproliferative properties. *Bioorg. Med. Chem.* 10, 2497-2509.
- Torres, J.L., Varela, B., Garcia, M.T., Carilla, J., Matito, C., Centelles, J.J., Cascante, M., Sort, X., and Bobet, R. (2002b). Valorization of grape (*Vitis vinifera*) byproducts. Antioxidant and biological properties of polyphenolic fractions differing in procyanidin composition and flavonol content. *J. Agric. Food Chem.* 50, 7548-7555.
- Torres, J.L., Varela, B., Brilllas, E., and Julia, L. (2003). Tris(2,4,6-trichloro-3,5-dinitrophenyl)methyl radical: a new stable coloured magnetic species as a chemosensor for natural polyphenols. *Chem. Commun.* 1, 74-75.
- Tourino, S., Selga, A., Jimenez, A., Julia, L., Lozano, C., Lizarraga, D.L., Cascante, M., and Torres, J.L. (2005). Procyanidin fractions from pine (*Pinus pinaster*) bark: Radical scavenging power in solution, antioxidant activity in emulsion, and antiproliferative effect in melanoma cells. *J. Agric. Food Chem.* 53, 4728-4735.
- Uesato, S., Kitagawa, Y., Kamishimoto, M., Kumagai, A., Hori, H., and Nagasawa, H. (2001). Inhibition of green tea catechins against the growth of cancerous human colon and hepatic epithelial cells. *Cancer Lett.* 170, 41-44.
- Vaher, M., and Koel, M. (2003). Separation of polyphenolic compounds extracted from plant matrices using capillary electrophoresis. *J. Chromatogr. A* 990, 225-230.
- Valcic, S., Timmermann, B.N., Alberts, D.S., Wachter, G.A., Krutzsch, M., Wymer, J., and Guillen, J.M. (1996). Inhibitory effect of six green tea catechins and caffeine on the growth of four selected human tumor cell lines. *Anticancer Drugs* 7, 461-468.

- van Engeland, M., Nieland, L.J., Ramaekers, F.C., Schutte, B., and Reutelingsperger, C.P. (1998). Annexin V-affinity assay: a review on an apoptosis detection system based on phosphatidylserine exposure. *Cytometry* 31, 1-9.
- Vermes, I., Haanen, C., and Reutelingsperger, C. (2000). Flow cytometry of apoptotic cell death. *J. Immunol. Methods* 243, 167-190.
- Vermes, I., Haanen, C., Steffensnakkken, H., and Reutelingsperger, C. (1995). A Novel Assay for Apoptosis. Flow Cytometric Detection of Phosphatidylserine Expression on Early Apoptotic Cells Using Fluorescein-Labeled Annexin-V. *J. Immunol. Methods* 184, 39-51.
- Wang, B.H., Foo, L.Y., and Polya, G.M. (1996). Differential inhibition of eukaryote protein kinases by condensed tannins. *Phytochemistry* 43, 359-365.
- Wardman, P. (2001). Electron transfer and oxidative stress as key factors in the design of drugs selectively active in hypoxia. *Curr. Med. Chem.* 8, 739-761.
- Wenzel, U., Kuntz, S., Brendel, M.D., and Daniel, H. (2000). Dietary flavone is a potent apoptosis inducer in human colon carcinoma cells. *Cancer Res.* 60, 3823-3831.
- Wenzel, U., Nickel, A., Kuntz, S., and Daniel, H. (2004). Ascorbic acid suppresses drug-induced apoptosis in human colon cancer cells by scavenging mitochondrial superoxide anions. *Carcinogenesis* 25, 703-712.
- Williams, R.J., Spencer, J.P.E., and Rice-Evans, C. (2004). Flavonoids: antioxidants or signalling molecules? *Free Radic. Biol. Med.* 36, 838-849.
- Winkel-Shirley, B. (2001). Flavonoid biosynthesis. A colorful model for genetics, biochemistry, cell biology, and biotechnology. *Plant Physiol.* 126, 485-493.
- Xie, D.Y., and Dixon, R.A. (2005). Proanthocyanidin biosynthesis - still more questions than answers? *Phytochemistry* 66, 2127-2144.
- Yamamoto, T., Hsu, S., Lewis, J., Wataha, J., Dickinson, D., Singh, B., Bollag, W.B., Lockwood, P., Ueta, E., Osaki, T., and Schuster, G. (2003). Green tea polyphenol causes differential oxidative environments in tumor versus normal epithelial cells. *J. Pharmacol. Exp. Therap.* 307, 230-236.
- Yanagida, A., Shoji, T., and Shibusawa, Y. (2003). Separation of proanthocyanidins by degree of polymerization by means of size-exclusion chromatography and related techniques. *J. Biochem. Biophys. Methods* 56, 311-322.
- Yang, G.Y., Liao, J., Kim, K., Yurkow, E.J., and Yang, C.S. (1998). Inhibition of growth and induction of apoptosis in human cancer cell lines by tea polyphenols. *Carcinogenesis* 19, 611-616.
- Yao, L.H., Jiang, Y.M., Datta, N., Singanusong, R., Liu, X., Duan, J., Raymont, K., Lisle, A., and Xu, Y. (2004a). HPLC analyses of flavanols and phenolic acids in the fresh young shoots of tea (*Camellia sinensis*) grown in Australia. *Food Chem.* 84, 253-263.
- Yao, L.H., Jiang, Y.M., Shi, J., Tomas-Barberan, F.A., Datta, N., Singanusong, R., and Chen, S.S. (2004b). Flavonoids in food and their health benefits. *Plant Foods Hum. Nutr.* 59, 113-122.
- Yen, G.C., Chen, H.Y., and Peng, H.H. (1997). Antioxidant and pro-oxidant effects of various tea extracts. *J. Agric. Food Chem.* 45, 30-34.

- Yoshida, T., Hatano, T., and Okuda, T. (1989). Chromatography of Tannins .4. Separation of Labile Oligomeric Hydrolyzable Tannins and Related Polyphenols by Centrifugal Partition Chromatography. *J. Chromatogr.* 467, 139-147.
- Zhong, W.G., Gallivan, J.P., Zhang, Y.O., Li, L.T., Lester, H.A., and Dougherty, D.A. (1998). From ab initio quantum mechanics to molecular neurobiology: A cation-pi binding site in the nicotinic receptor. *Proc. Natl. Acad. Sci. USA* 95, 12088-12093.