

## REFERENCES

- Aftab N, Likhitwitayawuid K, Vieira A. Comparative antioxidant activities and synergism of resveratrol and oxyresveratrol. **Nat Prod Res** 2010; 24: 1726-33.
- Anis M, Faisal M, Singh SK. Micropropagation of mulberry (*Morus alba* L.) through *In vitro* culture of shoot tip and nodal explants. **Plant Tissue Cult** 2003; 13: 47-51.
- Asano N, Tomioka E, Kizu H, Matsu K. N-containing sugars from *Morus alba* and their glycosidase inhibitory activities. **Carbohydr Res** 1995; 259: 253.
- Aziz A, Aziz PT, Dhuicq L, Jeandet P, Couderchet M, Vernet G. Chitosan oligomers and copper sulfate induce grapevine defense reactions and resistance to gray mold and downy mildew. **Phytopathol** 2006; 96: 1188-1194.
- Bacon CW, White JF. **Microbial Endophytes**. New York: Marcel Dekker; 2000.
- Belhadj A, Saigne C, Telef N, Cluzet S, Bouscaus J, Mearillon JM, et al. Methyl jasmonate induces defense responses in grapevine and triggers protection against *Erysiphe necator*. **J Agric Food Chem** 2006; 54: 9119-9125.
- Belhadj A, Saigne C, Telef N, Cluzet S, Bouscaus J, Mearillon JM, et al. Methyl jasmonate induces defense responses in grapevine and triggers protection against *Erysiphe necator*. **J Agric Food Chem** 2006; 54: 9119-9125.
- Bhattarai NK. Folk anthelmintic drugs of Central Nepal. **Int J Pharmacog** 1992; 30: 145-150.
- Bhuiyan MI, Kim HB, Kim SY, Cho KO. The neuroprotective potential of cyanidin-3-glucoside fraction extracted from mulberry following oxygen-glucose deprivation. **Korean J Physiol Pharmacol** 2011 Dec; 15: 353–361.
- Boenisch T, editor. **Immunocytochemical staining method**. 3<sup>rd</sup> ed. CA, USA: DAKO corporation carpinteria; 2001.
- Chang LW, Juang LJ, Wang BS, Wang MY, Tai HM, Hung WJ, Chen YJ, et al. Antioxidant and antityrosinase activity of mulberry (*Morus alba* L.) twigs and root bark, **Food Chem Toxicol** Apr 2011; 49: 785-79.

- Chong J, Poutaraud A, Huguency P. Metabolism and roles of stilbenes in plants. **Plant Sci** 2009; 177: 143–155.
- Chuanasa T, Phromjai J, Lipipun V, Likhitwitayawuid K, Suzuki M, Pramyothin P. Anti-herpes simplex virus (HSV-1) activity of oxyresveratrol derived from Thai medicinal plant: Mechanism of action and therapeutic efficacy on cutaneous HSV-1 infection in mice. **Antiviral Res** 2008; 80: 62–70.
- Datta RK. **Mulberry cultivation and utilization in India**. FAO Electronic Conference on “Mulberry for Animal Production”. 2000.
- Dicosmo F, Misawa M. Plant cell and tissue culture: alternatives for metabolite production. **Biotechnol Adv** 1995; 13: 425-453.
- Ercisli S, Orhan E. Chemical composition of white (*Morus alba*), red (*Morus rubra*) and black (*Morus nigra*) mulberry fruits. **Food Chem** 2007; 103: 1380-1384.
- Fan GZ, Wang XD, Li XC, Fan JS, Zhai QL, Zhan YG. Effect of fungal elicitor on carbon and nitrogen status and triterpenoid production in cell suspension cultures of *Betula platyphylla* Suk. **J Med Plant Res** 2011; 5: 5413-5422.
- Galindo I, Hernáez B, Berná J, Fenoll J, Cenis JL, Escribano JM, Alonso C. Comparative inhibitory activity of the stilbenes resveratrol and oxyresveratrol on African swine fever virus replication. **Antiviral Res** 2011; 9: 57-63.
- Gao FK, Dai CC, Liu XZ. Review: Mechanisms of fungal endophytes in plant protection against pathogens. **Afr J Microbiol Res** 2010; 4: 1346-1351.
- Gunatilaka AA. Natural products from plant-associated microorganisms: distribution, structural diversity, bioactivity, and implications of their occurrence. **J Nat Prod** 2006; 69: 509-26.
- Hahn MG. Microbial elicitors and their receptor in plant. **Annu rev Phytopathol.** 1996; 34: 412-387.
- Hansawasdi C, Kawabata J. Alpha-glucosidase inhibitory effect of mulberry (*Morus alba*) leaves on Caco-2. **Fitoterapia** 2006 Dec; 77: 568-73.
- Horn TF, Andrabi SA, Spina MG, Lorenz P, Ebmeyer U, Wolf G. Oxyresveratrol (trans-2,3',4,5'- tetrahydroxystilbene) is neuroprotective and inhibits the apoptotic cell death in transient cerebral. **Brain Res** 2004; 1017: 98–107.

- Hsieh YH, Chiang CL, Chen PN, Chu SC, Chiou HL, Kuo WH. Mulberry anthocyanins, cyanidin 3-rutinoside and cyanidin 3-glucoside, exhibited an inhibitory effect on the migration and invasion of a human lung cancer cell line. **Canc Res** 2006; 235: 248-259.
- Hughes AB, Rudge AJ. Deoxynojirimycin: Synthesis and Biological activity. **Nat Prod Rep** 1994; 11: 135.
- Hunyadi A, Martins A, Hsieh TJ, Seres A, Zupkó I. Chlorogenic acid and rutin play a major role in the in vivo anti-diabetic activity of *Morus alba* leaf extract on type II diabetic rats. **Ploce One** [serial online] 2012 Nov [cited 2012 Dec]. Available from: <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0050619>
- Hurek RB, Hurek T. Living inside plants: bacterial endophytes. **Curr Opin Plant Biol** 2011 Aug; 14: 435-43.
- Kim JK, Kim M, Cho SG, Kim MK, Kim SW, Lim YH. Biotransformation of mulberroside A from *Morus alba* results in enhancement of tyrosinase inhibition. **J Ind Microbiol biotechnol** 2010; 37: 631–637.
- Kim YM, Yun J, Lee CK, Lee H, Min KR, Kim Y. Oxyresveratrol and hydroxystilbene compounds inhibitory effect on tyrosinase and mechanism of action. **J Biol Chem** 2002; 277: 16340-16344.
- Kumar V, Chauhan S. Mulberry: Life enhancer. **J Med Plant Res** 2008; 2: 271-278.
- Lee SH, Choi SY, Kim H, Hwang JS, Lee BG, Gao JJ, et al. Mulberroside F isolated from the leaves of *Morus alba* inhibits melanin biosynthesis. **Biol Pharm Bull** 2002 Aug; 25: 1045-8.
- Li YC, Tao WY, Cheng L. Paclitaxel production using co-culture of *Taxus* suspension cells and paclitaxel-producing endophytic fungi in a co-bioreactor. **Appl Microbiol Biotechnol** 2009; 83: 233–239.
- Likhitwitayawuid K, Sornsute A, Sritularaka B, Ploypradith P. Chemical transformations of oxyresveratrol (*trans*-2,4,3',5'-tetrahydroxystilbene) into a potent tyrosinase inhibitor and a strong cytotoxic agent. **Bioorg Med Chem Lett** 2006; 16: 5650–5653.

- Lim YH, Park KT, Kim JK, Hwang D, Yoo Y. Inhibitory effect of mulberroside A and its derivatives on melanogenesis induced by ultraviolet B irradiation. **Food Chem Toxic** 2011; 49: 3038–3045.
- Lipipun V, Sasivimolphan P, Yoshida Y, Daikoku T, Sritularak B, Ritthidej G. Topical cream-based oxyresveratrol in the treatment of cutaneous HSV-1 infection in mice. **Antiviral Res** 2011; 91: 154–160.
- Liu YH, Liang ZS, Chen B, Yang DF, Liu JL. Elicitation of alkaloids in *in vitro* PLB (protocorm-like body) cultures of *Pinellia ternate*. **Enzym Microb Tech** 2010; 46: 28-31.
- Lu YH, Song W, Wang HJ, Bucheli P, Zhang PF, Wei DZ. Phytochemical profiles of different mulberry (*Morus* sp.) species from China. **J Agric Food Chem** 2009; 57: 9133–9140.
- Maneechai S, Likhitwitayawuida K, Sritularaka B, Palanuvej C, Ruangrungsia N, Sirisa-ard P. Quantitative analysis of oxyresveratrol content in *Artocarpus lakoocha* and ‘Puag-Haad’. **Med Princ Pract** 2009; 18: 223–227.
- Masuko T, Minami A, Iwasaki N, Majima T, Nishimura SI, Lee YC. Carbohydrate analysis by a phenol–sulfuric acid method in microplate format. **Anal Biochem** 2005; 339: 69-72.
- Mei M, Ruan JQ, Wu WJ, Zhou RN, Zhao HY, Yan R, et al. In Vitro pharmacokinetic characterization of mulberroside A, the main polyhydroxylated stilbene in mulberry *Morus alba* L. and its bacterial metabolite oxyresveratrol in traditional oral use. **J Agric Food Chem** 2012; 60: 2299-2308.
- Naowaboot J, Pannangpetch P, Kukongviriyapan V, Kongyingyoes B, Kukongviriyapan U. Antihyperglycemic, antioxidant and antiglycation activities of mulberry leaf extract in streptozotocin-induced chronic diabetic rats. **Plant Foods Hum Nutr** 2009; 64: 116-21.
- Oh H, Ko EK, Jun JY, Oh MH, Park SU, Kang KH, Lee HS, Kim YC. Hepatoprotective and free radical scavenging activities of prenylflavonoids, coumarin, and stilbene from *Morus alba*. **Planta Med** 2002; 68: 932–934.

- Onose S, Ikeda R, Nakagawa K, Kimura T, Yamagishi K, Higuchi O, et al. Production of the  $\alpha$ -glycosidase inhibitor 1-deoxynojirimycin from *Bacillus* species. **Food Chem** 2013; 138: 516-523.
- Orlita A, Sidwa-Gorycka M, Malinski E, Czerwicka M, Kumirska J, Golebiowski M, et al. Effective biotic elicitation of *Ruta graveolens* L. shoot cultures by lysates from *Pectobacterium atrosepticum* and *Bacillus* sp. Stepnowski. **Biotechnol Lett** 2008; 30: 541–545.
- Ou M. **Chinese-English manual of common-used in traditional Chinese medicine**. Guangdong China: Guangdong Scientific Press; 1992.
- Paul B, Chereyathmanjiyil A, Masih I, Chapuis L, Benoît A. Biological control of *Botrytis cinerea* causing grey mould disease of grapevine and elicitation of stilbene phytoalexin (resveratrol) by a soil bacterium. **FEMS Microbiol Lett** 1998; 165: 65-70.
- Piao SJ, Chen LX, Kang N and Qiu F. Simultaneous determination of five characteristic stilbene glycosides in root bark of *Morus albus* L. (*Cortex Mori*) using high-performance liquid chromatography. **Phytochem Anal** 2011; 22: 230–235.
- Pongkitwitoon B, Sakamoto S, Tanaka H, Tsuchihashi R, Morimoto S, Putalun W. Enzyme-linked immunosorbent assay for total isoflavonoids in *Pueraria candollei* using anti-puerarin and anti-daidzin polyclonal antibodies. **Planta Med** 2010; 76: 831-836.
- Potter GA, Patterson LH, Wanogho E, Perry PJ, Butler PC, Ijaz T, et al. The cancer preventative agent resveratrol is converted to the anticancer agent piceatannol by the cytochrome P450 enzyme CYP1B1. **Br J Canc** 2002; 86: 774-778.
- Pujiyunto S, Lestari Y, Suwanto A, Budiarti, Darusman LK. Alpha-glucosidase inhibitor activity and characterization of endophytic actinomycetes isolated from some Indonesian diabetic medicinal plants. **Int J Pharm Pharm Sci** 2012; 4: 327-333.
- Putalun W, Tanaka H, Muranaka T, Shoyama Y. Determination of aculeatisides based on immunoassay using a polyclonal antibody against aculeatiside A. **Analyst** 2002; 127: 1328-32.

- Rao SR, Ravishankar GA. Plant cell cultures: Chemical factories of secondary metabolites. **Biotechnol Adv** 2002; 20: 101–153.
- Roat C, Ramawat KG. Elicitor-induced accumulation of stilbenes in cell suspension cultures of *Cayratia trifolia* (L.) Domin. **Plant Biotechnol Rep** 2009; 3: 135–138.
- Serraino I, Dugo L, Dugo P, Mondello L, Mazzon E, Dugo G, et al. Protective effects of cyanidin-3-O-glucoside from blackberry extract against peroxynitrite-induced endothelial dysfunction and vascular failure. **Life Sci** 2003; 73: 1097-114.
- Sharma S, Kashyap S, Vasudevan P. *Europ.J.Hort.Sci. In vitro* rhizogenesis of *Morus alba* by mycorrhizal extracts under saline stress. **Europ J Hort Sci** 2005; 70: 79–84.
- Shi L, Zhang Z. Anti-inflammatory and analgesic properties of *cis*-mulberroside A from *Ramulus mori*. **Fitoterapia** 2010; 81: 214-218.
- Shi-De L, Nemeč J, Ning BM. Anti-HIV flavonoids from *Morus Alba*. **Acta Bot Yunnanica** 1995; 17: 89-95.
- Shimazaki M, Hano Y, Nomura T. Non-discriminatory incorporation of L-phenylalanine and L-tyrosine into cinnamoyl part of mulberroside A, a stilbene di-glucoside, in *Morus alba* cell cultures. **Naturwissenschaften** 2000; 87: 546–548.
- Smetanska I. Production of Secondary Metabolites Using Plant Cell Cultures. **Food Biotechnol** 2008; 111: 187-288.
- Stierle A, Strobel G, Stierle D, Grothaus P, Bignami G. The search for a taxol-producing microorganism among the endophytic fungi of the Pacific yew, *Taxus brevifolia*. **J Nat Prod** 1995; 58: 1315-24.
- Stierle A, Strobel G, Stierle D. Taxol and taxane production by *Taxomyces andreanae*, an endophytic fungus of Pacific yew. **Science** 1993; 260: 214-216.
- Strobel G, Daisy B, Castillo U, Harper J. Natural products from endophytic microorganisms. **J Nat Prod** 2004; 67: 257-268.
- Tassanawat P, Putalun W, Yusakul G, Sritularak B, Juengwatanatrakul T, Tanaka H. Production of Polyclonal Antibody Against Madecassoside and Development of Immunoassay Methods for Analysis of Triterpene Glycosides

- in *Centella asiatica*. **Phytochem Anal** [serial online] 2012 Oct [cited 2012 Dec]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23081750>.
- Tengamnuy P, Pengrungruangwong K, Pheansri I, Likhitwitayawuid K. Artocarpus lakoocha heartwood extract as a novel cosmetic ingredient: evaluation of the *in vitro* anti-tyrosinase and *in vivo* skin whitening activities. **Int J Cosmet Sci** 2006; 28: 269-276.
- Tikader A, Kamble C K. Mulberry wild species in India and their use in crop improvement - a review. **Aust J Crop Sci** 2008; 2: 64-72.
- Wang JW, Zhang Z, Tan RX. Stimulation of artemisinin production in *Artemisia annua* hairy roots by the elicitor from the endophytic *Colletotrichum* sp. **Biotechnol Lett** 2001; 23: 857-860.
- Wen KC, Lin JW, Chaing HM, Lin YC. Natural products with skin –whitening Effects. **J Food Drug Anal** 2008; 16: 1-10.
- Xiao K, Zhang HJ, Xuan LJ, Zhang J, Xu YM, Bai DL. Stilbenoids: chemistry and bioactivities. **Stud Nat Prod Chem** 2008; 34: 453-646.
- Ye F, Shen Z, Xie M. Alpha-glucosidase inhibition from a Chinese medical herb (Ramulus mori) in normal and diabetic rats and mice. **Phytomedicine** 2002; 9: 161-6.
- Yen GC, Fang SC, Hsu CL. Anti-inflammatory effects of phenolic compounds isolated from the fruits of *Artocarpus heterophyllus*. **J Agric Food Chem** 2008; 56: 4463–4468.
- Yin H, Sun YH. Vincamine-producing endophytic fungus isolated from *Vinca minor*. **Phytomedicine** 2011; 18: 802-805
- Yoshimatsu K. Tissue culture of medicinal plants: Micropropagation, transformation and production of useful secondary metabolites. **Stud Nat Prod Chem** 2008; 34: 647–752.
- Yu DQ, Kang J, Ruo Y. Bioactive Diels Alder Type Adducts from Stem bark of *Morus macroura*. **Plant Med** 2004; 70: 758.
- Zhang YH, Zhong JJ. Hyperproduction of ginseng saponin and polysaccharide by high density cultivation of *Panax notoginseng* cells. **Enzym Microb Technol** 1997; 21: 59-63.

Zhang Z, Jin J, Shi L. Protective function of *cis*-mulberroside A and oxyresveratrol from *Ramulus mori* against ethanol-induced hepatic damage. **Environ Toxicol Pharm** 2008; 26: 325–330.

Zhou X, Zhu H, Liu L, Lin J, Tang K. A review: recent advances and future prospects of taxol-producing endophytic fungi. **Appl Microbiol Biotechnol** 2010; 86: 1707-17.