

# List of All Chemicals

## **P** Lythrum salicaria (Lythraceae)

### Common name(s)

Purple Loosestrife

### How used

Medicinal

\*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

| Chemical                       | Part <input type="button" value="All"/> | Low PPM | High PPM | StdDev | *Reference |
|--------------------------------|---|---------|----------|--------|------------|
| ANTHOCYANINS                   | Flower                                  | --      | 10000.0  | -1.0   | *          |
| <b>Activities (30)</b>         |   |         |          |        |            |
| Antiapoptotic                  |   |         |          |        |            |
| Antiarthritic 120 mg/man orl   |   |         |          |        |            |
| Anticancer 120 mg/man orl      |   |         |          |        |            |
| Anticarcinogenic               |   |         |          |        |            |
| Anticollegenase                |   |         |          |        |            |
| Antidiabetic                   |   |         |          |        |            |
| Antielastase                   |   |         |          |        |            |
| Antihyperglycemic              |   |         |          |        |            |
| Antihyperinsulinemic           |   |         |          |        |            |
| Antihyperleptinemic            |   |         |          |        |            |
| Antiinflammatory               |   |         |          |        |            |
| Antimutagenic                  |   |         |          |        |            |
| Antimyopic 600 mg/man orl      |   |         |          |        |            |
| Antinyctalopic 600 mg/man orl  |   |         |          |        |            |
| Antiobesity                    |   |         |          |        |            |
| Antioxidant                    |   |         |          |        |            |
| Antiproliferant                |   |         |          |        |            |
| Antitumor 120 mg/man orl       |   |         |          |        |            |
| Antivaricose                   |   |         |          |        |            |
| Antiviral                      |   |         |          |        |            |
| COX-1-Inhibitor IC45=125 ug/ml |   |         |          |        |            |
| COX-2-Inhibitor IC47=125 ug/ml |   |         |          |        |            |
| Chemopreventive                |   |         |          |        |            |
| Goitrogenic                    |   |         |          |        |            |
| Hemostat                       |   |         |          |        |            |
| NO-Scavenger                   |   |         |          |        |            |
| Pesticide                      |   |         |          |        |            |
| Vasoactive                     |   |         |          |        |            |
| Vasodilator                    |   |         |          |        |            |
| Vasoprotective                 |   |         |          |        |            |
| BETA-SITOSTEROL                | Plant                                   | --      | --       |        | *          |

**Activities (47)**

|  |   |
|--|---|
| Androgenic                                 |   |
| Angiogenic                                 |   |
| Anorexic                                   | Martindale's 28th   |
| Antiadenomic                               | Merck 11th Edition  |
| Antiandrogenic                             | Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.   |
| Antibacterial                              | Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.  |
| Anticancer (Breast)                        | Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103. |
| Anticancer (Cervix)                        |   |
| Anticancer (Lung)                          |   |
| Antiedemic IC54=320 mg/kg orl              |   |
| Antiestrogenic                             | Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.   |
| Antifeedant                                | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.  |
| Antifertility                              | Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.   |
| Antigonadotrophic                          | Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.   |
| Antihyperlipoproteinaemic                  | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.                                    |
| Antiinflammatory                           |   |
| Antileukemic                               |   |
| Antilymphomic                              |   |
| Antimutagenic 250 ug/ml                    |   |
| Antiophidic 2.3 mg mus                     | Economic & Medicinal Plant Research, 5: 363.  |
| Antioxidant IC44=10 uM                     |   |
| Antiprogestational                         | Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.   |
| Antiprostaglandin 30 mg/day/12 wks         |   |
| Antiprostataadenomic                       | Merck 11th Edition  |
| Antiprostatic 10-20 mg 3 x/day/orl man     |   |
| Antipyretic                                | Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.   |
| Antitumor (Breast)                         | Madhavi, D. L., Bomser, J., Smith, M., Singletary, K. 1998. Isolation of Bioactive Constituents from Vaccinium myrtillus (Bilberry) Fruits and Cell Cultures. Plant Sci., 131(1): 95-103. |
| Antitumor (Cervix)                         |   |
| Antitumor (Lung)                           |   |
| Antiviral                                  | Abid Ali Khan, M.M., Jain, D.C., Bhakuni, R.S., Zaim, M., and Thakur, R.S. 1991. Occurrence of some antiviral sterols in Artemisia annua. Plant Science, 75: 161-165, 1991.               |
| Apoptotic                                  |   |
| Artemicide LC50=110 ppm                    | Jung, J.H., Pummangura, S., Chaichantipyuth, c., Patarapanich, C., and McLaughlin, J.L. 1989. Bioactive Constituents of Melodorum fruticosum. Phytochemistry. 29(5): 1667-1670. 1990.     |
| Cancer-Preventive                          | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |
| Candidicide                                | Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.  |
| Caspase-8-Inducer                          |   |
| Estrogenic                                 |   |
| Febrifuge                                  | Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.   |
| Gonadotrophic                              | Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.   |
| Hepatoprotective                           |   |
| Hypocholesterolemic 2-6 g/man/day/orl      | Martindale's 30th   |
| Hypocholesterolemic 9-3,330 mg/man/day/orl | Martindale's 28th   |
| Hypoglycemic                               | Ivorra, M.D., Paya, M., and Villar, A. 1989. A Review of Natural Products and Plants as Potential Antidiabetic Drugs. Journal of Ethnopharmacology, 27: 243-275, 1989.                    |
| Hypolipidemic 2-6 g/day                    |   |
| Pesticide                                  |   |
| Spermicide                                 | Malini, T. and Vanithakumari, G. 1989. Rat Toxicity Studies With B-Sitosterol. Journal of Ethnopharmacology, 28: 221-234, 1990.   |
| Ubiquiot                                   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.                                    |
| Ulcerogenic 500 mg/kg ipr rat              |   |

|                  |       |    |    |   |
|------------------|-------|----|----|---|
| BUTYL-PHTHALATE  | Plant | -- | -- | * |
| CHLOROGENIC-ACID | Leaf  | -- | -- | * |

**Activities (77)**

|  |   |
|--|---|
| Aldose-Reductase-Inhibitor IC50=1.8 uM rat (strong activity) | Yoshikawa, M., et al. 1999. Medicinal Flowers. I. Aldose Reductase Inhibitors and Three New Eudesmane-Type Sesquiterpenes, Kikkanols A, B, and C, From the Flowers of Chrysanthemum indicum L. Chem Pharm Bull, 47(3): 340-345. |
| Allelochemic   |   |
| Allergenic   |   |
| Analgesic  |   |
| AntiEBV  | Economic & Medicinal Plant Research, 6: 189.  |

|                               |   |
|-------------------------------|---|
| AntiHIV                       | Economic & Medicinal Plant Research, 6: 189.  |
| AntiLegionella                |   |
| Antiatherosclerotic           |   |
| Antibacterial                 |   |
| Anticancer (Colon)            |   |
| Anticancer (Forestomach)      |   |
| Anticancer (Liver)            |   |
| Anticancer (Skin)             |   |
| Anticarcinogenic              |   |
| Antidiabetic                  |   |
| Antifeedant                   |   |
| Antigenotoxic                 |   |
| Antigonadotropic              | Jim Duke's personal files.  |
| Antihemolytic 10 uM           | Ohnishi, M., Morishita, H., Iwashashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.                            |
| Antihepatotoxic               |   |
| Antiherpetic                  | Economic & Medicinal Plant Research, 5: 194.  |
| Antihistaminic                |   |
| Antihypercholesterolemic      | Economic & Medicinal Plant Research, 6: 189.  |
| Antihyperthyroid              |   |
| Antiinflammatory              | Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.  |
| Antileukotriene               |   |
| Antimelanogenic               |   |
| Antimutagenic                 |   |
| Antinitrosaminic              |   |
| Antioxidant IC53=200 ppm      | Huang, M-T., and Ferraro, T. <i>Phenolic Compounds in Food and Cancer Prevention</i> . <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.2 p.21.   |
| Antioxidant IC80=12 uM        |   |
| Antioxidant IC50=54.2 uM      |   |
| Antiperoxidant IC50=36 uM     | <i>Planta Medica</i> , 57: A54, 1991.   |
| Antipolio                     | Jim Duke's personal files.  |
| Antiradicular 10 uM           | Ohnishi, M., Morishita, H., Iwashashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.                            |
| Antiradicular 9 x quercetin   |   |
| Antiseptic                    |   |
| Antisunburn                   |   |
| Antithyroid                   | Jim Duke's personal files.  |
| Antitumor                     | Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.  |
| Antitumor (Colon)             |   |
| Antitumor (Forestomach)       |   |
| Antitumor (Liver)             |   |
| Antitumor (Skin)              |   |
| Antitumor-Promoter IC25=10 uM |   |
| Antiulcer                     | Economic & Medicinal Plant Research, 6: 189.  |
| Antiviral                     | Vlietinck, A.J. and Dommissie, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.   |
| Autotoxic                     |   |
| CNS-Active                    | Wichtl, M. 1984. <i>Teedrogen. Ein Handbuch fur Apotheker und Arzte</i> . Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.   |
| CNS-Stimulant 1/6 Caffeine    |   |
| Cancer-Preventive             | Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |
| Cardioprotective              |   |
| Chemopreventive               |   |
| Cholagogue                    | Wichtl, M. 1984. <i>Teedrogen. Ein Handbuch fur Apotheker und Arzte</i> . Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.   |
| Choleretic                    | Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.   |
| Clastogenic                   | Friedman, M. and Dao, L. 1990. Effect of Autoclaving and Conventional and Microwave Baking on the Ergot Alkaloid and Chlorogenic Acid Contents of Morning Glory ( <i>Ipomoea tricolor</i> Cav. cv.) Heavenly Blue Seeds. <i>J. Agric. Food Chem.</i> 38: 805-808. |
| Collagen-Sparing              |   |
| Diuretic                      |   |
| Fungicide                     | Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.  |
| Hepatoprotective              | Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.   |
| Histamine-Inhibitor           |   |
| Hypoglycemic                  |   |
| Immunostimulant               |   |
| Insectifuge                   | Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in <i>Achillea millefolium</i> L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.   |
| Interferonogenic              | Economic & Medicinal Plant Research, 1: 124.  |
| Juvabional                    | Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.  |
| Larvostat                     | Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.  |

Leukotriene-Inhibitor

Lipoxygenase-Inhibitor IC<sub>23</sub>=5 mM Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. *J. Agric. Food Chem.* 38: 688-690.

Metal-Chelator

McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. *Phenolic Compounds in Food and Their Effects on Health*, Ch.25.

NO-Genic

Ornithine-Decarboxylase-Inhibitor

Hagerman, A.E. Tannin-Protein Interactions. *Phenolic Compounds in Food and Their Effects on Health*, Ch.19.

Oviposition-Stimulant

Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.

Pesticide

Sunscreen

Sweetener

Leung, A. Y. and Foster, S. 1995. *Encyclopedia of Common Natural Ingredients* 2nd Ed. John Wiley & Sons, New York. 649 pp.

Vulnerary

|                            |        |    |    |   |
|----------------------------|--------|----|----|---|
| CYANIDIN-3-MONOGALACTOSIDE | Flower | -- | -- | * |
| DIBUTYL-PHTHALATE          | Plant  | -- | -- | * |
| DIISOBUTYL-PHTHALATE       | Plant  | -- | -- | * |
| ELLAGIC-ACID               | Leaf   | -- | -- | * |

**Activities (51)**

|   |  |
|---|--|
| ACE-Inhibitor IC50=5 mM/l                                   |  |
| Abortifacient 1.2 mg/kg ivn mus                             |  |
| Aldose-Reductase-Inhibitor IC50=0.2 uM                      |  |
| Aldose-Reductase-Inhibitor IC50=0.2 ug/ml (strong activity) |  |
| AntiGTF ID50=20 ug/ml                                       |  |
| AntiHIV IC90=200 ug/ml                                      | Tan, G.T., Pezzuto, J.M., Kinghorn,* A.D., Hughes, S.H. Evaluation Of Natural Products As Inhibitors Of Human Immunodeficiency Virus Type 1 (HIV-1) Reverse Transcriptase. <i>Journal of Natural Products</i> , 54(1): 143-154, 1991.                                      |
| Antiaflatoxin   |  |
| Antianaphylactic  |  |
| Antibacterial 1,250 ug/ml                                   |  |
| Antibacterial ID50=20 ug/ml                                 |  |
| Anticancer (Cervix)   | Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.   |
| Anticancer (Colon)  | Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.   |
| Anticancer (Esophagus)                                      | Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.   |
| Anticancer (Mouth)  | Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.   |
| Anticariogenic ID50=20 ug/ml                                |  |
| Anticataract  | Shimizu, M., Horie, S., Terashima, S., Ueno, H., et al. 1989. Studies on Aldose Reductase Inhibitors from Natural Products.II. Active Components of a Paraguayan Crude Drug 'Para-parai mi,' <i>Phyllanthus niruri</i> . <i>Chem. Pharm. Bull.</i> 37(9): 2531-2532, 1989. |
| Antigingivitic 1,250 ug/ml                                  |  |
| Antihyperthyroid  |  |
| Antiinflammatory  |  |
| Antimalarial IC50=0.5 uM                                    | Rukunga, G. and Simons, A. J. 2006. The Potential of Plants as a Source of Antimalarial Agents - A Review. <i>Africa Herbal Antimalaria Meeting</i> . PlantaPhile Publications, Berlin. 72 pp.   |
| Antimutagenic   |  |
| Antioxidant >50 x tocopherol                                | Osawa, T. Phenolic Antioxidants in Dietary Plants as Antimutagens.Phenolic Compounds in Food and Their Effects on Health, Ch.11 p.142.   |
| Antioxidant IC98=30 ppm                                     |  |
| Antioxidant 2/3 quercetin                                   |  |
| Antiperiodontic 1,250 ug/ml                                 |  |
| Antiperoxidant IC50=29 uM                                   | <i>Planta Medica</i> , 57: A54, 1991.  |
| Antiplatelet 1,250 ug/ml                                    |  |
| Antiplasmodial IC50=0.5 uM                                  | Rukunga, G. and Simons, A. J. 2006. The Potential of Plants as a Source of Antimalarial Agents - A Review. <i>Africa Herbal Antimalaria Meeting</i> . PlantaPhile Publications, Berlin. 72 pp.   |
| Antiseptic 1,250 ug/ml                                      |  |
| Antistreptococcic ID50=20 ug/ml                             |  |
| Antithyroid   | Jim Duke's personal files.   |
| Antitumor   |  |
| Antiviral   | <i>Economic &amp; Medicinal Plant Research</i> , 5: 224.   |
| Antiyeast IC50=10.5 uM                                      |  |
| Apoptotic   | Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code</i> . Hyperion, NY.   |
| Astringent  | Martindale's 29th  |
| Cancer-Preventive 3 ppm                                     |  |
| Candida-SAP-Inhibitor IC50=8.4 uM                           |  |
| Cytotoxic 4.6 ug/ml   | <i>Advance in Chinese Medicinal Materials Research</i> . 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 359.  |
| Deiodinase-Inhibitor  | Jim Duke's personal files.   |
| Detoxicant  |  |
| Glucosyl-Transferase-Inhibitor ID50=20 ug/ml                |  |
| HIV-RT-Inhibitor  | <i>Economic &amp; Medicinal Plant Research</i> , 5: 224.   |
| Hemostatic  | Merck 11th Edition   |
| Hepatoprotective IC55=30 ug/ml                              | Mayumi Ito (nee Someya), et al. 1990. Hepatoprotective Compounds from <i>Canarium album</i> and <i>Euphorbia nematocypa</i> . <i>Chem. Pharm. Bull.</i> 38(8): 2201-2203, 1990.  |
| Juvabional  | Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Pesticide   |  |
| Quinone-Reductase-Inducer 0.4 g/kg rat                      | Ahn, D., Putt, D., Kresty, L., Stoner, G. D., Fromm, D., Hollenberg, P. F. 1996. The Effects of Dietary Ellagic Acid on Rat Hepatic and Esophageal Mucosal Cytochromes P450 and Phase II Enzymes. <i>Carcinogenesis</i> , 17(4): 821-828.                                  |
| Sunscreen 0.50%   | Jim Duke's personal files.   |
| Topoisomerase-I-Antagonist                                  | <i>Journal of Medicinal Food</i> 2: 167.1999.  |
| Xanthine-Oxidase-Inhibitor IC50=3.1 uM                      | Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. <i>Chem. Pharm. Bull.</i> 38(5): 1224-1229     |

|                    |       |    |    |   |
|--------------------|-------|----|----|---|
| GALLOTANNINS       | Leaf  | -- | -- | * |
| ISOBUTYL-PHTHALATE | Plant | -- | -- | * |
| LOLIOLIDE          | Plant | -- | -- | * |

| Activities (2)           |        |    |    |  |   |
|--------------------------|--------|----|----|--|---|
| Ant-Repellent            |        |    |    |  |   |
| Pesticide                |        |    |    |  |   |
| MALVIDIN-3,5-DIGLUCOSIDE | Flower | -- | -- |  | * |
| NARCISSIN                | Plant  | -- | -- |  | * |
| ORIENTIN                 | Leaf   | -- | -- |  | * |

| Activities (4)                   |  |    |    |  |   |
|----------------------------------|--|----|----|--|---|
| Antiinflammatory                 | Fitoterapia No.61: 263, 1990.  |    |    |  |   |
| Antioxidant                      |  |    |    |  |   |
| Cancer-Preventive                | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |    |    |  |   |
| cAMP-Phosphodiesterase-Inhibitor | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf). |    |    |  |   |
| P-COUMARIC-ACID                  | Leaf   | -- | -- |  | * |

| Activities (25)                                    |   |    |    |  |   |
|--|---|----|----|--|---|
| Aldose-Reductase-Inhibitor 4 ug/ml (weak activity) | Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. Sankyo Kenkyusho Nempo, 43: 99-110. |    |    |  |   |
| Allelopathic                                       | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |    |    |  |   |
| Antibacterial                                      | Pharmazie, 46: 156, 1991.   |    |    |  |   |
| Anticlastogen                                      |   |    |    |  |   |
| Antifertility                                      |   |    |    |  |   |
| Antihepatotoxic                                    | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |    |    |  |   |
| Antileukemic IC50=25-56 ug/ml                      | Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.  |    |    |  |   |
| Antinitrosaminic                                   | Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.  |    |    |  |   |
| Antioxidant IC24=30 ppm                            |   |    |    |  |   |
| Antioxidant 1/3 BHA                                |   |    |    |  |   |
| Antiperoxidant IC50=>100 uM                        | Planta Medica, 57: A54, 1991.   |    |    |  |   |
| Antiseptic   |   |    |    |  |   |
| Antispasmodic                                      | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.  |    |    |  |   |
| Antitumor  |   |    |    |  |   |
| Cancer-Preventive                                  |   |    |    |  |   |
| Chemopreventive                                    |   |    |    |  |   |
| Choleretic   |   |    |    |  |   |
| Cytotoxic  | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |    |    |  |   |
| Diaphoretic?                                       | Lawrence Review of Natural Products, Dec-90.  |    |    |  |   |
| Fungicide  | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.  |    |    |  |   |
| Lipoxygenase-Inhibitor IC11=5 mM                   | Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.  |    |    |  |   |
| Pesticide  |   |    |    |  |   |
| Prostaglandigenic                                  |   |    |    |  |   |
| Prostaglandin-Synthesis-Inhibitor                  |   |    |    |  |   |
| Tyrosinase-Inhibitor ID50=3,650 uM                 |   |    |    |  |   |
| PECTIN   | Leaf  | -- | -- |  | * |

**Activities (24)**

|                               |   |
|-------------------------------|---|
| Antiatheromic 15 g/man/day    | Cerda, J.J. Pectin in Health and Disease. HortScience, 25(12): 1485, 1990.  |
| Antibacterial                 |   |
| Antidiabetic 10 g/man/day/orl |   |
| Antidiarrheic                 | Merck 11th Edition  |
| Antienteric                   |   |
| Antigallstone                 |   |
| Antigastritic                 |   |
| Antilithic                    |   |
| Antimetastatic                |   |
| Antimutagenic                 |   |
| Antibesit                     | Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.  |
| Antitumor (Colon)             |   |
| Antitumor (Prostate)          |   |
| Antitussive                   |   |
| Antiulcer                     |   |
| Cancer-Preventive             | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.                                   |
| Chemopreventive               |   |
| Demulcent                     |   |
| Fungicide                     | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp. |
| Hemostat                      |   |
| Hypocholesterolemic           |   |
| Hypoglycemic                  | Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.  |
| Peristaltic                   |   |
| Pesticide                     |   |

|           |       |    |          |      |   |
|-----------|-------|----|----------|------|---|
| SALICARIN | Plant | -- | --       |      | * |
| TANNIN    | Stem  | -- | 105000.0 | 0.65 | * |

**Activities (35)**

|   |   |
|---|---|
| Anthelmintic                              |   |
| AntiHIV                                   |   |
| Antibacterial                             |   |
| Anticancer                                |   |
| Anticariogenic                            |   |
| Antidiarrheic                             |   |
| Antidysenteric                            |   |
| Antihepatotoxic                           |   |
| Antihypertensive                          |   |
| Antilipolytic                             |   |
| Antimutagenic                             |   |
| Antinephritic                             | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antiphidic                                | Economic & Medicinal Plant Research, 5: 363.  |
| Antioxidant<br>IC50=1.44 ug/ml            |   |
| Antioxidant 1/3<br>quercetin              |   |
| Antiradicular 500<br>mg/kg/day orl mus    | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antiradicular 1/3<br>quercetin            |   |
| Antirenitic                               | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antitumor                                 |   |
| Antitumor-Promoter                        |   |
| Antiulcer                                 |   |
| Antiviral                                 |   |
| Cancer-Preventive                         | HerbalGram No. 22 - Spring 1990, page 14.   |
| Carcinogenic                              |   |
| Chelator                                  |   |
| Cyclooxygenase-<br>Inhibitor              |   |
| Glucosyl-<br>Transferase-Inhibitor        |   |
| Hepatoprotective                          |   |
| Immunosuppressant                         |   |
| Lipoxygenase-<br>Inhibitor                |   |
| MAO-Inhibitor                             |   |
| Ornithine-<br>Decarboxylase-<br>Inhibitor |   |
| Pesticide                                 |   |
| Psychotropic                              | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Xanthine-Oxidase-<br>Inhibitor            |   |

TANNIN

Root

--

85000.0

0.27

\*



**Activities (35)**

|   |   |
|---|---|
| Anthelmintic                              |   |
| AntiHIV                                   |   |
| Antibacterial                             |   |
| Anticancer                                |   |
| Anticariogenic                            |   |
| Antidiarrheic                             |   |
| Antidysenteric                            |   |
| Antihepatotoxic                           |   |
| Antihypertensive                          |   |
| Antilipolytic                             |   |
| Antimutagenic                             |   |
| Antinephritic                             | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antiphidic                                | Economic & Medicinal Plant Research, 5: 363.  |
| Antioxidant<br>IC50=1.44 ug/ml            |   |
| Antioxidant 1/3<br>quercetin              |   |
| Antiradicular 500<br>mg/kg/day orl mus    | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antiradicular 1/3<br>quercetin            |   |
| Antirenitic                               | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antitumor                                 |   |
| Antitumor-Promoter                        |   |
| Antiulcer                                 |   |
| Antiviral                                 |   |
| Cancer-Preventive                         | HerbalGram No. 22 - Spring 1990, page 14.   |
| Carcinogenic                              |   |
| Chelator                                  |   |
| Cyclooxygenase-<br>Inhibitor              |   |
| Glucosyl-<br>Transférase-Inhibitor        |   |
| Hepatoprotective                          |   |
| Immunosuppressant                         |   |
| Lipoxygenase-<br>Inhibitor                |   |
| MAO-Inhibitor                             |   |
| Ornithine-<br>Decarboxylase-<br>Inhibitor |   |
| Pesticide                                 |   |
| Psychotropic                              | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Xanthine-Oxidase-<br>Inhibitor            |   |

|        |      |    |          |      |   |
|--------|------|----|----------|------|---|
| TANNIN | Leaf | -- | 120000.0 | 0.12 | * |
|--------|------|----|----------|------|---|

**Activities (35)**

|   |   |
|---|---|
| Anthelmintic                              |   |
| AntiHIV                                   |   |
| Antibacterial                             |   |
| Anticancer                                |   |
| Anticariogenic                            |   |
| Antidiarrheic                             |   |
| Antidysenteric                            |   |
| Antihepatotoxic                           |   |
| Antihypertensive                          |   |
| Antilipolytic                             |   |
| Antimutagenic                             |   |
| Antinephritic                             | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antiphidic                                | Economic & Medicinal Plant Research, 5: 363.  |
| Antioxidant<br>IC50=1.44 ug/ml            |   |
| Antioxidant 1/3<br>quercetin              |   |
| Antiradicular 500<br>mg/kg/day orl mus    | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antiradicular 1/3<br>quercetin            |   |
| Antirenitic                               | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antitumor                                 |   |
| Antitumor-Promoter                        |   |
| Antiulcer                                 |   |
| Antiviral                                 |   |
| Cancer-Preventive                         | HerbalGram No. 22 - Spring 1990, page 14.   |
| Carcinogenic                              |   |
| Chelator                                  |   |
| Cyclooxygenase-<br>Inhibitor              |   |
| Glucosyl-<br>Transferase-Inhibitor        |   |
| Hepatoprotective                          |   |
| Immunosuppressant                         |   |
| Lipoxygenase-<br>Inhibitor                |   |
| MAO-Inhibitor                             |   |
| Ornithine-<br>Decarboxylase-<br>Inhibitor |   |
| Pesticide                                 |   |
| Psychotropic                              | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Xanthine-Oxidase-<br>Inhibitor            |   |

|        |        |    |          |      |   |
|--------|--------|----|----------|------|---|
| TANNIN | Flower | -- | 137000.0 | 0.82 | * |
|--------|--------|----|----------|------|---|

**Activities (35)**

|   |   |
|---|---|
| Anthelmintic                              |   |
| AntiHIV                                   |   |
| Antibacterial                             |   |
| Anticancer                                |   |
| Anticariogenic                            |   |
| Antidiarrheic                             |   |
| Antidysenteric                            |   |
| Antihepatotoxic                           |   |
| Antihypertensive                          |   |
| Antilipolytic                             |   |
| Antimutagenic                             |   |
| Antinephritic                             | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antiphidic                                | Economic & Medicinal Plant Research, 5: 363.  |
| Antioxidant<br>IC50=1.44 ug/ml            |   |
| Antioxidant 1/3<br>quercetin              |   |
| Antiradicular 500<br>mg/kg/day orl mus    | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antiradicular 1/3<br>quercetin            |   |
| Antirenitic                               | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Antitumor                                 |   |
| Antitumor-Promoter                        |   |
| Antiulcer                                 |   |
| Antiviral                                 |   |
| Cancer-Preventive                         | HerbalGram No. 22 - Spring 1990, page 14.   |
| Carcinogenic                              |   |
| Chelator                                  |   |
| Cyclooxygenase-<br>Inhibitor              |   |
| Glucosyl-<br>Transférase-Inhibitor        |   |
| Hepatoprotective                          |   |
| Immunosuppressant                         |   |
| Lipoxygenase-<br>Inhibitor                |   |
| MAO-Inhibitor                             |   |
| Ornithine-<br>Decarboxylase-<br>Inhibitor |   |
| Pesticide                                 |   |
| Psychotropic                              | Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990. |
| Xanthine-Oxidase-<br>Inhibitor            |   |

VITEXIN

Leaf

--

--

\*

**Activities (18)**

ACE-Inhibitor 5 ug/ml

ACE-Inhibitor IC50=0.3 mM/l

Aldose-Reductase-Inhibitor  
IC15=10 uM Shimizu, M., Ito, T., Terashima, S., Hayashi, T., Arisawa, M., Morita, N., Kurokawa, S., Ito, K., and Hashimoto, Y. 1984. Inhibition of Lens Aldose Reductase by Flavonoids. *Phytochemistry*, 23: 1885-1888.Aldose-Reductase-Inhibitor 5  
ug/ml Okamoto, Y., Yoshizawa, T. 1994. Angiotensin-Converting Enzyme Inhibitors and Aldose Reductase Inhibitors Containing Passiflora quadraqualaris Extracts or Vitexin. Patent, Japan Kokai Tokyo Koho-06,293,657. 4pp.

Antiarrhythmic Jim Duke's personal files.

Antibradycardiac Fitoterapia No.61: 277, 1990.

Antidermatitic

Antihistaminic

Antiinflammatory Fitoterapia No.61: 263, 1990.

Antioxidant

Antiserotoninic

Antithyroid Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.

Aphidifuge

Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Goitrogenic Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.

Hypotensive

Thyroid-Peroxidase-Inhibitor Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London. 791 pp.cAMP-Phosphodiesterase-  
Inhibitor IC50=1.6 mg/ml Schussler, M., Fricke, U., Nikolov, N., and Holz, J. 1991. Comparison of the Flavonoids Occurring in *Crataegus* species and Inhibition of 3',5'-Cyclic Adenosine Monophosphate Phosphodiesterase. *Plant Medica* 57: Suppl Issue 2. p.A-133.