

# List of All Chemicals

## **P** Eriodictyon californicum (Hydrophyllaceae)

### Common name(s)

Hierba Santa; California Yerba Santa; Gum Bush; Consumptive's Weed; Bear's Weed; Mountain Balm; Holy Herb; Yerba Santa; Tarweed

### 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<br>All ▾  | Low<br>PPM | High<br>PPM | StdDev | *Reference   |
|---|--|------------|-------------|--------|--|
| 3',4',5,7-TETRAHYDROXYFLAVONE             | Plant  | --         | --          |        | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.   |
| <b>Activities (1)</b>                     |  |            |             |        |  |
| Antioxidant                               |  |            |             |        |  |
| 3',4',5,7-TETRAHYDROXYFLAVONE             | Plant  | --         | --          |        | *  |
| 3'-METHYL-4'-ISOBUTYRYLERIODICTYOL        | Plant  | --         | --          |        | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.      |
| 3'-METHYL-4'-ISOBUTYRYLERIODICTYOL        | Shoot  | --         | 19.0        |        | *  |
| 3,4',5-TRIHYDROXY-7-METHOXY-FLAVANONE     | Leaf   | --         | 410000.0    |        | *  |
| 3,4',5-TRIHYDROXY-7-METHOXY-FLAVANONE     | Resin, Exudate, Sap  | --         | --          |        | *  |
| 4',5,7-TRIHYDROXY-3',6-DIMETHOXYFLAVANONE | Shoot  | --         | 50.0        |        | *  |
| 4',5-DIHYDROXY-6,7-DIMETHOXYFLAVANONE     | Shoot  | --         | 24.0        |        | *  |
| ACETIC-ACID                               | Plant  | --         | --          |        | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| <b>Activities (16)</b>                    |  |            |             |        |  |
| Acidulant                                 | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |            |             |        |  |
| Antibacterial 5,000 ppm                   |  |            |             |        |  |
| Antiotitic                                | Martindale's 28th  |            |             |        |  |
| Antisalmonella                            |  |            |             |        |  |
| Antivaginitic 1-2%                        |  |            |             |        |  |
| Expectorant                               | Martindale's 28th  |            |             |        |  |
| Fungicide                                 | Martindale's 29th  |            |             |        |  |
| Keratitigenic                             |  |            |             |        |  |
| Mucolytic                                 | Martindale's 29th  |            |             |        |  |
| Osteolytic                                |  |            |             |        |  |
| Perfumery FEMA 6,000-40,000 ppm           | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |            |             |        |  |
| Pesticide                                 |  |            |             |        |  |
| Protistocide                              | Martindale's 29th  |            |             |        |  |
| Spermicide                                | Martindale's 28th  |            |             |        |  |
| Ulcerogenic                               | HerbalGram No. 20, page 9.   |            |             |        |  |
| Verrucolytic                              |  |            |             |        |  |
| ASCORBIC-ACID                             | Leaf   | 0.4        | 1.7         | -0.44  | *  |

**Activities (112)**

|  |  |
|--|--|
| Acidulant FEMA 6,000                     | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |
| Aldose-Reductase-Inhibitor               | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Analgesic 5-10 g/day                     |  |
| Angiotensin-Receptor-Blocker             |  |
| AntiAGE 2,000 mg/day                     | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| AntiCFS 500-1,000 mg                     |  |
| AntiCTS 1,000 mg 3x/day                  |  |
| AntiCrohn's 50-100 mg/day/orl/man        | Martindale's 29th  |
| AntiLyme 500-2,000 mg                    |  |
| AntiRaynaud's 500 mg 1-2x/day            |  |
| Antiagregant                             | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antiaging 400 mg/day                     |  |
| Antiallergic                             |  |
| Antialzheimeran 2,000-6,000 mg/day       |  |
| Antiarthritic 0.2-1 g/day                |  |
| Antiasthmatic 1,000 mg/day               | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiatherosclerotic                      |  |
| Antibacterial                            | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Anticataract 350 mg/day                  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Anticataract 400 mg/day                  | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Anticataract 1 g 3x/day                  |  |
| Anticervicaldysplasic 1,000-2,000 mg/day |  |
| Anticlimacteric 500-5,000 mg/day         |  |
| Anticold 1-2 g/man/day                   |  |
| Antidecubic 500 mg/man/2x/day            | Martindale's 28th  |
| Antidementia                             |  |
| Antidepressant 2,000 mg/day              | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antidiabetic                             | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antidote (Aluminum)                      | Economic & Medicinal Plant Research, 6: 189.   |
| Antidote (Cadmium)                       | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antidote (Lead)                          | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antidote (Paraquat)                      | Martindale's 28th  |
| Antieczemic 3.5-5 g/day                  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiedemic 1 g/man/day                   | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antiencephalitic                         | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antiendometriotic 2,000 mg/day           |  |
| Antifatigue 500-1,000 mg                 |  |
| Antifibrotic 1,000-2,000 mg              |  |
| Antigallstone 1,000-3,000 mg/day         |  |
| Antigastritic                            |  |
| Antigingivitic                           |  |
| Antiglaucomic 2 g/day                    | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antihangover 1,000 mg                    |  |
| Antihemorrhagic 1 g/man/day              | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antihepatitic 2-6 g/man/day              | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antihepatotoxic                          | Economic & Medicinal Plant Research, 6: 189.   |
| Antiherpetic 1-5 g/day                   |  |
| Antihistaminic 2 g/day orl man           |  |
| Antihypertensive                         |  |
| Antiinfertility 1 g/day                  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiinflammatory                         | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Antileptic 1.5 g/man/day                 | Martindale's 28th  |
| Antilithic 1,000-3,000 mg/day            |  |
| Antimaculitic                            |  |
| Antimeasles                              | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antimenopausal 500-5,000 mg/day          |  |
| Antimigraine                             | Martindale's 29th  |

|  |  |
|--|--|
| Antimutagenic                              | Economic & Medicinal Plant Research, 6: 235.   |
| Antineuramidase                            |  |
| Antinitrosic 1 g/man/day                   | Martindale's 28th  |
| Antiobesity 1 g 3x/day                     | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiorchitic                               | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antiosteoarthritic 1 g 2x/day              | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiosteoporotic 500 mg/day                |  |
| Antioxidant 100 ppm                        |  |
| Antiparkinsonian 1 g 2-3x/day              |  |
| Antiparotitic                              | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antiperiodontitic 1 g 2x/day               | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antipneumonic                              | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Antipodriac                                | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antipoliomyelitic                          | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antipyretic                                | Economic & Medicinal Plant Research, 6: 189.   |
| Antiradicular                              | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antiretinotic                              |  |
| Antirheumatic                              |  |
| Antirhinitic 1,000 mg 3x/day               |  |
| Antiscorbutic 10 mg/man/day                | Martindale's 28th  |
| Antiseptic MIC=3.3-217 mg/ml               | Martindale's 28th  |
| Antiseptic 4-8 g/day                       | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antishingles                               | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antispasmodic 500-5,000 mg/day             |  |
| Antistress 500-1,000 mg                    |  |
| Antisyndrome-X 1-4 g/day                   | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antitumor (Gastric)                        |  |
| Antitumor (Lung)                           |  |
| Antiulcer                                  |  |
| Antiviral 1-5 g/day                        |  |
| Apoptotic 1-10 mM                          |  |
| Asthma-preventive 1,000 mg/day/orl         | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Beta-Adrenergic Receptor Blocker           |  |
| Beta-Glucuronidase-Inhibitor 1.5 g/day/man |  |
| Calcium-Antagonist                         |  |
| Cancer-Preventive                          | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Cardioprotective                           |  |
| Cold-preventive 1-2 g/day                  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Collagenic                                 |  |
| Detoxicant                                 |  |
| Diuretic 700 mg/man/orl                    |  |
| Fistula-Preventive                         | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Hypocholesterolemic 300-1,000 mg/day       | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Hypoglycemic                               | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Hypotensive 1,000 mg/man/day               |  |
| Immunomodulator                            |  |
| Immunostimulant                            | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Interferonogenic                           | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Lithogenic                                 | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Mucolytic 1 g/woman/day                    | Martindale's 28th  |
| Pesticide                                  |  |
| Uricosuric 4 g/man/day                     | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Urinary-Acidulant                          | Martindale's 29th  |
| Vasodilator                                |  |
| Vulnerary                                  | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |

|               |      |         |         |       |   |
|---------------|------|---------|---------|-------|---|
| ASH           | Leaf | 15620.0 | 71000.0 | -0.84 | * |
| BETA-CAROTENE | Leaf | 21.0    | 96.0    | -0.72 | * |

**Activities (53)**

|                                    |  |
|------------------------------------|--|
| Allergenic                         |  |
| Androgenic?                        | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| AntiPMS                            |  |
| Antiacne                           | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Antiaging                          |  |
| Antiarthritic                      |  |
| Antiasthmatic                      | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Anticancer                         | Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.   |
| Anticarcinomic                     | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Anticervicaldysplasic              |  |
| Anticoronary 50 mg/man/2 days      |  |
| Antihyperkeratotic                 |  |
| Antiichthyotic                     | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Antileukoplakic                    |  |
| Antilipoperoxidant IC71=50 ug/ml   |  |
| Antilupus 150 mg/man/day/2 mos     | Martindale's 28th  |
| Antimaculitic                      |  |
| Antimastitic                       | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Antimutagenic                      | Economic & Medicinal Plant Research, 6: 235.   |
| Antioxidant                        | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Antiozenic                         |  |
| Antipapillomic                     |  |
| Antiphotophobic 30-300 mg/man/day  | Martindale's 29th  |
| Antipityriasic                     | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Antiporphyrhic 30-300 mg/man/day   | Martindale's 28th  |
| Antiproliferant                    | Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.   |
| Antipsoriac                        | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Antiradicular                      | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Antirheumatic                      |  |
| Antistress                         | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antitumor                          | Simon, P.W. Carrots and Other Horticultural Crops as a Source of Provitamin A Carotenes. HortScience, 25(12): 1495, 1990.                              |
| Antitumor (Breast) IC45=60 ug/ml   |  |
| Antitumor (CNS) IC43=45 ug/ml      |  |
| Antitumor (Colon) IC43=45 ug/ml    |  |
| Antitumor (Lung) IC30=60 ug/ml     |  |
| Antitumor (Prostate)               |  |
| Antitumor (Stomach) IC26=45 ug/ml  |  |
| Antiulcer 12 mg 3x/day/man/orl     | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Antiulcer 15,000-25,000 IU/day     |  |
| Antixerophthalmic                  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| COX-1-Inhibitor IC78=50 ug/ml      |  |
| COX-2-Inhibitor IC82=50 ug/ml      |  |
| Cancer-Preventive 22 ppm           | Jim Duke's personal files.   |
| Chemopreventive                    |  |
| Colorant                           | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| Gastroprotective                   |  |
| Immunostimulant 180 mg/man/day/orl | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Interferon-Synergist               |  |
| Mucogenic                          | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Phagocytotic                       | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Prooxidant 20 ug/g                 |  |
| Thymoprotective                    | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Ubiquiot                           | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |

BUTYRIC-ACID      Plant      --      --      List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

| Activities (6)       |  |  |  |  |  |
|----------------------|--|--|--|--|--|
| Anticancer           |  |  |  |  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antitumor            |  |  |  |  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Apoptotic            |  |  |  |  |  |
| Bruchifuge           |  |  |  |  | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.                       |
| Nematostat 880 ug/ml |  |  |  |  | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp. |
| Pesticide            |  |  |  |  |  |

CALCIUM                      Leaf                      638.0                      2900.0                      -1.06                      \*

| Activities (28)                    |  |  |  |  |  |
|------------------------------------|--|--|--|--|--|
| AntiPMS 1 g/day                    |  |  |  |  |  |
| Antiallergic 500 mg/day            |  |  |  |  |  |
| Antianxiety                        |  |  |  |  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antiarrhythmic 500-1,500 mg        |  |  |  |  |  |
| Antiarthritic 1,000 mg/day         |  |  |  |  |  |
| Antiatherosclerotic 500 mg/day     |  |  |  |  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.               |
| Anticlimacteric 1,000-1,500 mg/day |  |  |  |  |  |
| Antidepressant                     |  |  |  |  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antidote (Aluminum)                |  |  |  |  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antidote (Lead)                    |  |  |  |  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antihyperkinetic                   |  |  |  |  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antihypertensive                   |  |  |  |  |  |
| Antiinsomniac                      |  |  |  |  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antimenopausal 1,000-1,500 mg/day  |  |  |  |  |  |
| Antiobesity                        |  |  |  |  |  |
| Antiosteoporotic 500-2,000 mg/day  |  |  |  |  |  |
| Antiperiodontitic 750 mg/day       |  |  |  |  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.               |
| Antirheumatic 1,000 mg/day         |  |  |  |  |  |
| Antistress 500-1,500 mg/day        |  |  |  |  |  |
| Antitic                            |  |  |  |  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Anxiolytic 500-1,500 mg/day        |  |  |  |  |  |
| Calcium-Channel-Blocker            |  |  |  |  |  |
| Diuretic                           |  |  |  |  |  |
| Hypocholesterolemic 500 mg/day     |  |  |  |  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.               |
| Hypotensive 1 g/day                |  |  |  |  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.               |
| Laxative 1,000-1,200 mg            |  |  |  |  |  |
| Tranquilizer 500-1,500 mg/day      |  |  |  |  |  |
| Vasodilator                        |  |  |  |  |  |

CEROTIC-ACID                      Bark                      --                      --                      \*

CEROTIC-ACID                      Resin, Exudate, Sap                      --                      --                      Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

CHROMIUM                      Leaf                      0.4                      1.7                      -0.5                      \*

**Activities (24)**

|                                  |  |
|----------------------------------|--|
| Amphiglycemic?                   | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| AntiAGE 200-1,000 ug             | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| AntiCFS 200 ug                   |  |
| Antiacne                         |  |
| Antiaging 200-1,000 ug           | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antiatherosclerotic 20 ug/day    |  |
| Anticorneotic                    | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antidiabetic 200-1,000 ug        |  |
| Antidote (Lead)                  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antifatigue 200 ug               |  |
| Antiglycosuric 200-1,000 ug      |  |
| Antiobesity 200-1,000 ug         | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antisyndrome-X 200-800 ug        | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antitriglyceride 20 ug/day       | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antitriglyceride 200-1,000 ug    | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Cardioprotective                 |  |
| Energizer                        |  |
| Hypocholesterolemic 20 ug/day    | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Hypocholesterolemic 200-1,000 ug | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Hypoglycemic 200-1,000 ug        | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Hypotensive 200-1,000 ug         | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Immunomodulator                  |  |
| Insulinogenic                    |  |
| Memorigenic                      |  |

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

**Activities (60)**

|                             |  |
|-----------------------------|--|
| AntiHIV                     |  |
| AntiMDR                     |  |
| Antiaflatoxin IC50=8.19 uM  |  |
| Antiaflatoxin IC50=2.08 ppm |  |
| Antiaggregant               |  |
| Antiallergic                | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Antiangiogenic              |  |
| Antibacillary               |  |
| Antibacterial               |  |
| Anticonvulsant              |  |
| Antiestrogenic              |  |
| Antigout                    |  |
| Antiherpetic 40-75 ug/ml    | Amoros, M., Simoes, C.M.O., Girre, L., et al. Synergistic Effect Of Flavones And Flavonols Against Herpes Simplex Virus Type 1 In Cell Culture. Comparison With The Antiviral Activity Of Propolis. J. of Natural Products 55(12):1732-1740, 1992. |
| Antihypertensive            |  |
| Antileukemic >genistein     |  |
| Antimutagenic               | Economic & Medicinal Plant Research, 6: 235.   |
| Antiproliferant             |  |
| Antiproliferant >genistein  |  |
| Antiproliferant (colon)     |  |
| Antisalmonella              |  |
| Antishigellc                |  |
| Antispasmodic               | Biochem Pharmacol, 40(10): 2227.   |
| Antistaphylococcic          |  |
| Antistress                  |  |
| Antithrombic                |  |

|                                    |  |
|------------------------------------|--|
| Antitumor (Breast)                 |  |
| Antitumor (Colon)                  |  |
| Antiviral 40-75 ug/ml              | Amoros, M., Simoes, C.M.O., Girre, L., et al. Synergistic Effect Of Flavones And Flavonols Against Herpes Simplex Virus Type 1 In Cell Culture. Comparison With The Antiviral Activity Of Propolis. J. of Natural Products 55(12):1732-1740, 1992. |
| Anxiolytic                         |  |
| Apoptotic                          |  |
| Aromatase-Inhibitor<br>IC80=1 uM/l |  |
| CNS-Depressant                     |  |
| CYP1A1-Inhibitor                   |  |
| Cancer-Preventive                  |  |
| Caspase-3-Inhibitor                |  |
| Caspase-9-Inhibitor                |  |
| Cytotoxic<br>>genistein            |  |
| Cytotoxic                          |  |
| DNA-Protective                     |  |
| Estrogenic                         |  |
| Fungicide 2.5 mM                   | Geibel, M. 1994. Sensitivity of the Fungus <i>Cytospora personii</i> to the Flavonoids of <i>Prunus cerasus</i> . <i>Phytochemistry</i> . 38(3): 599-601. 1995.  |
| Hepatoprotective<br>IC50=8.19 uM   |  |
| Hepatoprotective<br>IC50=2.08 ppm  |  |
| Hypotensive                        |  |
| Hypouricemic                       |  |
| ICAM-1-Inhibitor                   |  |
| JNK-Inhibitor                      |  |
| MAO-Inhibitor                      |  |
| Mutagenic                          |  |
| Myorelaxant                        |  |
| NO-Genic                           |  |
| Pesticide                          |  |
| Radioprotective                    |  |
| Termitifuge                        | Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Testosterogenic                    |  |
| Topoisomerase-I-Inhibitor          | Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. Phytoestrogens: Potential Endocrine Disruptors in Males. <i>Toxicol Ind Health</i> , 14: 223-237.  |
| VEGF-Inhibitor                     |  |
| Vasodilator                        |  |
| Vasorelaxant                       |  |
| Xanthine-Oxidase-Inhibitor         |  |

CHRY SIN                      Shoot                      --                      2.5                      \*

**Activities (60)**

|                                |  |
|--------------------------------|--|
| AntiHIV                        |  |
| AntiMDR                        |  |
| Antiaflatoxin<br>IC50=8.19 uM  |  |
| Antiaflatoxin<br>IC50=2.08 ppm |  |
| Antiaggregant                  |  |
| Antiallergic                   | Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Antiangiogenic                 |  |
| Antibacillary                  |  |
| Antibacterial                  |  |
| Anticonvulsant                 |  |
| Antiestrogenic                 |  |
| Antigout                       |  |
| Antiherpetic 40-75 ug/ml       | Amoros, M., Simoes, C.M.O., Girre, L., et al. Synergistic Effect Of Flavones And Flavonols Against Herpes Simplex Virus Type 1 In Cell Culture. Comparison With The Antiviral Activity Of Propolis. J. of Natural Products 55(12):1732-1740, 1992. |
| Antihypertensive               |  |
| Antileukemic<br>>genistein     |  |
| Antimutagenic                  | Economic & Medicinal Plant Research, 6: 235.   |
| Antiproliferant                |  |
| Antiproliferant<br>>genistein  |  |
| Antiproliferant<br>(colon)     |  |
| Antisalmonella                 |  |
| Antishigellc                   |  |

|                                 |  |
|---------------------------------|--|
| Antispasmodic                   | Biochem Pharmacol, 40(10): 2227.   |
| Antistaphylococcic              |  |
| Antistress                      |  |
| Antithrombic                    |  |
| Antitumor (Breast)              |  |
| Antitumor (Colon)               |  |
| Antiviral 40-75 ug/ml           | Amoros, M., Simoes, C.M.O., Girre, L., et al. Synergistic Effect Of Flavones And Flavonols Against Herpes Simplex Virus Type 1 In Cell Culture. Comparison With The Antiviral Activity Of Propolis. J. of Natural Products 55(12):1732-1740, 1992. |
| Anxiolytic                      |  |
| Apoptotic                       |  |
| Aromatase-Inhibitor IC80=1 uM/l |  |
| CNS-Depressant                  |  |
| CYP1A1-Inhibitor                |  |
| Cancer-Preventive               |  |
| Caspase-3-Inhibitor             |  |
| Caspase-9-Inhibitor             |  |
| Cytotoxic >genistein            |  |
| Cytotoxic                       |  |
| DNA-Protective                  |  |
| Estrogenic                      |  |
| Fungicide 2.5 mM                | Geibel, M. 1994. Sensitivity of the Fungus <i>Cytospora personii</i> to the Flavonoids of <i>Prunus cerasus</i> . <i>Phytochemistry</i> , 38(3): 599-601. 1995.  |
| Hepatoprotective IC50=8.19 uM   |  |
| Hepatoprotective IC50=2.08 ppm  |  |
| Hypotensive                     |  |
| Hypouricemic                    |  |
| ICAM-1-Inhibitor                |  |
| JNK-Inhibitor                   |  |
| MAO-Inhibitor                   |  |
| Mutagenic                       |  |
| Myorelaxant                     |  |
| NO-Genic                        |  |
| Pesticide                       |  |
| Radioprotective                 |  |
| Termitifuge                     | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Testosterogenic                 |  |
| Topoisomerase-I-Inhibitor       | Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. Phytoestrogens: Potential Endocrine Disruptors in Males. <i>Toxicol Ind Health</i> , 14: 223-237.  |
| VEGF-Inhibitor                  |  |
| Vasodilator                     |  |
| Vasorelaxant                    |  |
| Xanthine-Oxidase-Inhibitor      |  |

|                   |                     |    |    |  |
|-------------------|---------------------|----|----|--|
| CHRYSOERIODICTYOL | Resin, Exudate, Sap | -- | -- | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| CHRYSOERIOL       | Plant               | -- | -- | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.      |

#### Activities (7)

|                                       |   |
|---------------------------------------|---|
| Aldose-Reductase-Inhibitor IC31=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. <i>Phytochemistry</i> , 23: 1885-1888. |
| Anticomplementary                     |   |
| Antimutagenic                         | Economic & Medicinal Plant Research, 6: 235.  |
| Antioxidant                           |   |
| Antirhinoviral                        | Economic & Medicinal Plant Research, 5: 197.  |
| Antiviral                             | Economic & Medicinal Plant Research, 5: 197.  |
| Cancer-Preventive                     | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |

|             |       |    |       |      |   |
|-------------|-------|----|-------|------|---|
| CHRYSOERIOL | Shoot | -- | 106.0 | 1.69 | * |
|-------------|-------|----|-------|------|---|



| Activities (7)                        |   |  |  |  |  |
|---------------------------------------|---|--|--|--|--|
| Aldose-Reductase-Inhibitor IC31=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. <i>Phytochemistry</i> , 23: 1885-1888. |  |  |  |  |
| Anticomplementary                     |   |  |  |  |  |
| Antimutagenic                         | Economic & Medicinal Plant Research, 6: 235.  |  |  |  |  |
| Antioxidant                           |   |  |  |  |  |
| Antirhinoviral                        | Economic & Medicinal Plant Research, 5: 197.  |  |  |  |  |
| Antiviral                             | Economic & Medicinal Plant Research, 5: 197.  |  |  |  |  |
| Cancer-Preventive                     | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |  |  |  |  |

CIRSIMARITIN      Shoot      --      106.0      1.0      \*

| Activities (9)                                |  |  |  |  |  |
|---|--|--|--|--|--|
| Aldose-Reductase-Inhibitor 10 uM              | Okuda, I., Muwa, B., Inagakat, K., Horie, T., Nakayama, M. 1982. Inhibition of Aldose Reductases from Rat and Bovine Lenses by Flavonoids. <i>Biochem Pharmacol</i> , 31(23): 3807-3822.   |  |  |  |  |
| Aldose-Reductase-Inhibitor IC50=1.6 ug/ml cow | Okada, Y, et al. 1995. Search for Naturally Occurring Substances to Prevent the Complications of Diabetes. II. Inhibitory Effect of Coumarin and Flavonoid Derivatives on Bovine Lens Aldose Reductase and Rabbit Platelet Aggregation. <i>Chem Pharm Bull</i> 43(8):1385-1387 |  |  |  |  |
| Antibacterial                                 | Recio, M. C., Rios, J. L., and Villar, A., A review of some antimicrobial compounds isolated from medicinal plants reported in the literature 1978-1988, <i>Phytotherapy Research</i> , 3(4), 1989, 117-125.   |  |  |  |  |
| Antiinflammatory IC~50=1,000 uM               |  |  |  |  |  |
| Antimutagenic                                 | Economic & Medicinal Plant Research, 6: 235.   |  |  |  |  |
| COX-1-Inhibitor IC50=1,000 uM                 |  |  |  |  |  |
| COX-2-Inhibitor IC>50=1,000 uM                |  |  |  |  |  |
| Cancer-Preventive                             | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |  |  |  |  |
| Pesticide                                     |  |  |  |  |  |

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

COBALT      Leaf      3.0      14.0      -0.22      \*

| Activities (2)      |  |  |  |  |  |
|---------------------|--|--|--|--|--|
| Cardiomyopathogenic | Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp. |  |  |  |  |
| Erythrocytogenic    | Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp. |  |  |  |  |

DIOSMETIN      Leaf      --      114000.0      \*

| Activities (13)                       |   |  |  |  |  |
|---------------------------------------|---|--|--|--|--|
| Aldose-Reductase-Inhibitor IC17=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. <i>Phytochemistry</i> , 23: 1885-1888. |  |  |  |  |
| Antialzheimeran                       |   |  |  |  |  |
| Antidementia                          |   |  |  |  |  |
| Antimutagenic ID50=10-40 nM           | Phenolic Compounds in Food and Their Effects on Health. <i>Antioxidants &amp; Cancer Prevention</i> . Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507. ACS, Washington 402 pp.              |  |  |  |  |
| Antirhinoviral                        | Economic & Medicinal Plant Research, 5: 197.  |  |  |  |  |
| Antiviral                             | Economic & Medicinal Plant Research, 5: 197.  |  |  |  |  |
| Cancer-Preventive                     | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |  |  |  |  |
| Estrogenic EC50=2.9 uM                |   |  |  |  |  |
| NO-Inhibitor EC50=19 uM               |   |  |  |  |  |
| Osteoblastogenic                      |   |  |  |  |  |
| PPAR-Gamma-Antagonist                 |   |  |  |  |  |
| TNF-alpha-Inhibitor IC50=3.27 uM      |   |  |  |  |  |
| TNF-alpha-Inhibitor EC50=39 uM        |   |  |  |  |  |

ERIODICTYOL      Leaf      2300.0      6000.0      \*

| Activities (10)                  |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Antibacterial                    | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |  |  |  |  |
| Antifeedant IC52=<1,000 ppm diet | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |  |  |  |  |
| Antiinflammatory                 |  |  |  |  |  |
| Antioxidant                      |  |  |  |  |  |
| Antiperoxidant                   | Planta Medica, 57: A110, 1991.   |  |  |  |  |
| Aphidifuge                       |  |  |  |  |  |
| Cancer-Preventive                | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |  |  |  |  |
| Expectorant                      | Lawrence Review of Natural Products, Mar-91.   |  |  |  |  |
| Juvabional                       | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |  |  |  |  |
| Pesticide                        |  |  |  |  |  |

ERIODICTYOL                      Bark                      --                      2300.0                      \*

| Activities (10)                  |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Antibacterial                    | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |  |  |  |  |
| Antifeedant IC52=<1,000 ppm diet | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |  |  |  |  |
| Antiinflammatory                 |  |  |  |  |  |
| Antioxidant                      |  |  |  |  |  |
| Antiperoxidant                   | Planta Medica, 57: A110, 1991.   |  |  |  |  |
| Aphidifuge                       |  |  |  |  |  |
| Cancer-Preventive                | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |  |  |  |  |
| Expectorant                      | Lawrence Review of Natural Products, Mar-91.   |  |  |  |  |
| Juvabional                       | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |  |  |  |  |
| Pesticide                        |  |  |  |  |  |

ERIODICTYOL                      Shoot                      --                      106.0                      1.0                      \*

| Activities (10)                  |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Antibacterial                    | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |  |  |  |  |
| Antifeedant IC52=<1,000 ppm diet | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |  |  |  |  |
| Antiinflammatory                 |  |  |  |  |  |
| Antioxidant                      |  |  |  |  |  |
| Antiperoxidant                   | Planta Medica, 57: A110, 1991.   |  |  |  |  |
| Aphidifuge                       |  |  |  |  |  |
| Cancer-Preventive                | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |  |  |  |  |
| Expectorant                      | Lawrence Review of Natural Products, Mar-91.   |  |  |  |  |
| Juvabional                       | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |  |  |  |  |
| Pesticide                        |  |  |  |  |  |

|                    |                     |         |          |      |  |
|--------------------|---------------------|---------|----------|------|--|
| ERIODICTYONIC-ACID | Leaf                | --      | --       |      | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| ERIODICTYONINE     | Leaf                | 30000.0 | 60000.0  |      | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| ERIODIN            | Shoot               | --      | --       |      | *  |
| ERIODONOL          | Resin, Exudate, Sap | --      | --       |      | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| ERIODONOL          | Shoot               | --      | --       |      | *  |
| FAT                | Leaf                | 18040.0 | 82000.0  | 0.51 | *  |
| FIBER(CRUDE)       | Leaf                | --      | 150000.0 | 0.59 | *  |
| FIBER(DIETARY)     | Leaf                | --      | 380000.0 | 0.07 | *  |
| FORMIC-ACID        | Plant               | --      | --       |      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.     |

| Activities (13)       |  |  |  |  |  |
|-----------------------|--|--|--|--|--|
| Acaricide             |  |  |  |  |  |
| Antiseptic            |  |  |  |  |  |
| Antisynoptic          |  |  |  |  |  |
| Astringent            | Merck 11th Edition   |  |  |  |  |
| Corrosive             | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |  |  |  |  |
| Counterirritant       | Merck 11th Edition   |  |  |  |  |
| FLavor FEMA 500-2,500 | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |  |  |  |  |
| Fungistat             | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |  |  |  |  |
| Fungitoxic            | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |  |  |  |  |
| Irritant              |  |  |  |  |  |
| Pesticide             |  |  |  |  |  |
| Preservative          | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |  |  |  |  |
| Toxic                 | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |  |  |  |  |

GLUCOSE                      Bark                      --                      --                      \*

| Activities (7)    |  |  |  |  |  |
|-------------------|--|--|--|--|--|
| Acetylcholinergic |  |  |  |  |  |
| Antiedemic        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |  |  |  |  |
| Antihepatotoxic   | Merck 11th Edition   |  |  |  |  |
| Antiketotic       | Merck 11th Edition   |  |  |  |  |
| Antivaricose      | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |  |  |  |  |
| Hyperglycemic     | Merck 11th Edition   |  |  |  |  |
| Memory-Enhancer   | Science News, 138: 189, 1990.  |  |  |  |  |

GUM                              Leaf                      26400.0                      120000.0                      0.46                      \*

HESPERETIN                      Resin,                      --                      --                      \*  
Exudate,  
Sap

| Activities (8)              |   |  |  |  |  |
|-----------------------------|---|--|--|--|--|
| Antibacterial MIC=500 ug/ml |   |  |  |  |  |
| Antifeedant                 | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.                                |  |  |  |  |
| Antilipolytic               | Kuppusamy, U.R., and Das, N.P. 1993. Antilipolytic Action of Hesperetin in Rat Adipocytes. Planta Medica, 59: 508.  |  |  |  |  |
| Antiviral                   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.                                |  |  |  |  |
| Cancer-Preventive           | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |  |  |  |  |
| Fungistat                   | Weidenborner, M., Hindorf, H., Jha, H.C., and Tsotsonos, P. 1989. Antifungal Activity of Flavonoids Against Storage Fungi of the Genus Aspergillus. Phytochemistry. 29(4): 1103-1105. |  |  |  |  |
| Hepatoprotective            | Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 253.             |  |  |  |  |
| Pesticide                   |   |  |  |  |  |

HISPIDULIN                      Shoot                      --                      62.5                      -1.0                      \*

| Activities (7)              |   |  |  |  |  |
|-----------------------------|---|--|--|--|--|
| Antiaggregant IC50=13 ug/ml | Economic & Medicinal Plant Research, 5: 333.  |  |  |  |  |
| Antihepatotoxic 32 mg/kg    |   |  |  |  |  |
| Antioxidant ED=uM           |   |  |  |  |  |
| Antiperoxidant              |   |  |  |  |  |
| Antiradicular               |   |  |  |  |  |
| Antitumor                   | Lewis and Elvin-Lewis, Medical Botany, ca 1977  |  |  |  |  |
| Cancer-Preventive           | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp. |  |  |  |  |

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

| Activities (7)               |  |  |  |  |   |
|------------------------------|--|--|--|--|---|
| Antiaaggregant IC50=13 ug/ml |  |  |  |  | Economic & Medicinal Plant Research, 5: 333.  |
| Antihepatotoxic 32 mg/kg     |  |  |  |  |   |
| Antioxidant ED=uM            |  |  |  |  |   |
| Antiperoxidant               |  |  |  |  |   |
| Antiradicular                |  |  |  |  |   |
| Antitumor                    |  |  |  |  | Lewis and Elvin-Lewis, Medical Botany, ca 1977  |
| Cancer-Preventive            |  |  |  |  | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp. |

|                 |      |         |          |  |  |
|-----------------|------|---------|----------|--|--|
| HOMOERIODICTYOL | Leaf | 42000.0 | 128000.0 |  | *  |
| HOMOERIODICTYOL | Leaf | --      | --       |  | Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989. |

| Activities (3)                   |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Antifeedant IC52=<1,000 ppm diet |  |  |  |  | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |
| Aphidifuge                       |  |  |  |  |  |
| Pesticide                        |  |  |  |  |  |

|                 |      |    |    |  |   |
|-----------------|------|----|----|--|---|
| HOMOERIODICTYOL | Bark | -- | -- |  | * |
|-----------------|------|----|----|--|---|

| Activities (3)                   |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Antifeedant IC52=<1,000 ppm diet |  |  |  |  | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |
| Aphidifuge                       |  |  |  |  |  |
| Pesticide                        |  |  |  |  |  |

|                 |       |    |        |  |   |
|-----------------|-------|----|--------|--|---|
| HOMOERIODICTYOL | Shoot | -- | 4250.0 |  | * |
|-----------------|-------|----|--------|--|---|

| Activities (3)                   |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Antifeedant IC52=<1,000 ppm diet |  |  |  |  | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |
| Aphidifuge                       |  |  |  |  |  |
| Pesticide                        |  |  |  |  |  |

|                 |                           |    |    |  |   |
|-----------------|---------------------------|----|----|--|---|
| HOMOERIODICTYOL | Resin,<br>Exudate,<br>Sap | -- | -- |  | * |
|-----------------|---------------------------|----|----|--|---|

| Activities (3)                   |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Antifeedant IC52=<1,000 ppm diet |  |  |  |  | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |
| Aphidifuge                       |  |  |  |  |  |
| Pesticide                        |  |  |  |  |  |

|      |      |      |       |       |   |
|------|------|------|-------|-------|---|
| IRON | Leaf | 24.0 | 110.0 | -0.64 | * |
|------|------|------|-------|-------|---|

| Activities (6)                     |  |  |  |  |  |
|------------------------------------|--|--|--|--|--|
| Antiakathisic                      |  |  |  |  | Martindale's 29th  |
| Antianemic                         |  |  |  |  | Martindale's 29th  |
| Anticanker                         |  |  |  |  |  |
| Anticheilitic                      |  |  |  |  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antimenorrhagic 100 mg/day/wmn/orl |  |  |  |  | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf). |
| Prooxidant                         |  |  |  |  |  |

|          |      |    |         |      |   |
|----------|------|----|---------|------|---|
| LUTEOLIN | Leaf | -- | 39000.0 | 1.73 | * |
|----------|------|----|---------|------|---|

| Activities (78)                             |  |  |  |  |   |
|---|--|--|--|--|---|
| Aldose-Reductase-Inhibitor EC=3 ppm         |  |  |  |  | Shin*, K.H., Chung, M.S., Chae, Y.J., Yoon, K.Y., Cho, T.S. 1992. A survey for aldose reductase inhibition of herbal medicines. Fitoterapia 64(2): 130, 1993. |
| Aldose-Reductase-Inhibitor IC50=0.45 uM rat |  |  |  |  |   |
| AntiHIV                                     |  |  |  |  |   |
| Antiallergic                                |  |  |  |  |   |
| Antiangiogenic IC60-75=10 uM                |  |  |  |  |   |
| Antiatherogenic                             |  |  |  |  |   |

|   |  |
|---|--|
| Antibacterial MIC=500 ug/ml               | Planta Medica, 57: A43, 1991.  |
| Anticarcinogenic                          |  |
| Anticarcinomic                            | 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.   |
| Anticataract EC=3 ppm                     | Shin*, K.H., Chung, M.S., Chae, Y.J., Yoon, K.Y., Cho, T.S. 1992. A survey for aldose reductase inhibition of herbal medicines. Fitoterapia 64(2): 130, 1993.  |
| Anticomplementary                         |  |
| Antidermatic                              | Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.  |
| Antiestrogenic                            |  |
| Antifeedant IC52=<1,000 ppm diet          | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |
| Antiherpetic 11-23 ug/ml                  |  |
| Antihistaminic <10-15 uM                  |  |
| Antiinflammatory #NAME?                   | Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.  |
| Antileukemic 20-50 uM                     |  |
| Antilymphomic                             | 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.   |
| Antimelanomic                             | 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.   |
| Antimutagenic ID50=2-5 nM                 |  |
| Antimutagenic ID50=0.44 ug/ml             |  |
| Antinociceptive                           |  |
| Antioxidant IC50=10 uM                    |  |
| Antipolio                                 | Economic & Medicinal Plant Research, 5: 197.   |
| Antiproliferant                           |  |
| Antispasmodic                             | Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.   |
| Antitumor 1-50 uM                         |  |
| Antitumor (Colon)                         | 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.   |
| Antitumor (Kidney)                        | 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.   |
| Antitumor (Lung)                          | 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.   |
| Antitumor (Ovary)                         | 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.   |
| Antitumor (Pancreas)                      | 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.   |
| Antitumor (Skin) 20 uM                    |  |
| Antitumor (Stomach)                       | 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.   |
| Antitumor (Thyroid) 12-50 uM              |  |
| Antitumor (brain)                         | 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.   |
| Antitussive                               |  |
| Antiviral 11-23 ug/ml                     |  |
| Aphidifuge                                |  |
| Apoptotic 12-50 uM                        |  |
| Aromatase-Inhibitor IC35=1 uM/l           | Journal of Medicinal Food 2: 235.1999.   |
| Beta-Glucuronidase-Inhibitor IC50=--40 uM |  |
| Calcium-Antagonist IC50=1.2 uM rbt        |  |
| Cancer-Preventive                         |  |
| Chemopreventive                           |  |
| Choleretic                                |  |
| Cytotoxic 1-50 uM                         |  |
| Deiodinase-Inhibitor                      | Jim Duke's personal files.   |
| Differentiator IC>40=40 uM                |  |
| Diuretic                                  | Jim Duke's personal files.   |
| Estrogenic 58% genistein                  |  |
| Hepatoprotective                          |  |
| Hyaluronidase-Inhibitor IC50+=100-250 uM  |  |
| Hypocholesterolemic                       |  |
| ICAM-1-Inhibitor                          |  |
| IKK-Inhibitor                             |  |
| Iodothyronine-Deiodinase-Inhibitor        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Lipoxygenase-Inhibitor                    |  |
| MAPK-Inhibitor                            |  |
| MMP-9-Inhibitor 20 uM                     |  |

Metalloproteinase-Inhibitor

Myorelaxant

NEP-Inhibitor IC50=>42 uM

NF-kB-Inhibitor

NO-Inhibitor

PTK-Inhibitor 10-100 uM

Pesticide

Proliferant

Prostaglandin-Synthetase-Inhibitor

Protein-Kinase-C-Inhibitor IC70=50 uM

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

TNF-alpha-Inhibitor IC50=14.44 uM

Topoisomerase-I-Inhibitor Santti, R., Makela, S., Strauss, L., Korman, J., Kostian, M. L. 1998. *Phytoestrogens: Potential Endocrine Disruptors in Males.* *Toxicol Ind Health*, 14: 223-237.

VEGF-Inhibitor IC50=2-7 uM

Vasodilator

Xanthine-Oxidase-Inhibitor IC50=0.11 ug/ml Chem. & Pharm. Bull. 38: 1772.

iNOS-Inhibitor

MAGNESIUM Leaf 2156.0 9800.0 2.19 \*

#### Activities (65)

AntiCFS

AntiLyme 400-1,000 mg

AntiMS

AntiPMS 400-800 mg/day/wmn/orl

AntiPMS 400-800 mg/day/wmn orl

AntiRaynaud's 280-350 mg/day

Antiaggregant 400 mg/day

Antialcoholic

Antianginal 400 mg/day Werbach, M. 1993. *Healing with Food.* Harper Collins, New York, 443 pp.

Antianorectic Davies, S., and Stewart, A. 1990. *Nutritional Medicine.* Avon Books, New York. 509pp.

Antianxiety 400 mg/day Werbach, M. 1993. *Healing with Food.* Harper Collins, New York, 443 pp.

Antiarrhythmic 400 mg/day

Antiarthritic Davies, S., and Stewart, A. 1990. *Nutritional Medicine.* Avon Books, New York. 509pp.

Antiasthmatic Pizzorno, J.E. and Murray, M.T. 1985. *A Textbook of Natural Medicine.* John Bastyr College Publications, Seattle, Washington (Looseleaf).

Antiatherosclerotic 400 mg/day

Anticephalagic

Anticlimacteric 500-750 mg/day

Anticonvulsant Facciola, S. 1998. *Cornucopia - A Source Book of Edible Plants.* Kampong Publications, Vista CA. 713 pp.

Anticoronary 400 mg/day Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. *Syndrom X - The complete nutritional program to prevent and reserve insulin resistance.* John Wiley & Sons, New York. 272 pp. \$24.95

Antidepressant Davies, S., and Stewart, A. 1990. *Nutritional Medicine.* Avon Books, New York. 509pp.

Antidiabetic 400-800 mg/man/day

Antidysmenorrheic 100 mg 4 x/day Werbach, M. 1993. *Healing with Food.* Harper Collins, New York, 443 pp.

Antiendometriotic 500 mg/day

Antienterotic

Antiepileptic 450 mg/day

Antifatigue

Antifibromyalgic 200-300 mg 3x/day

Antigastroic

Antiglaucomic

Antihyperkinetic Davies, S., and Stewart, A. 1990. *Nutritional Medicine.* Avon Books, New York. 509pp.

Antihypertensive

Antihypoglycemic Davies, S., and Stewart, A. 1990. *Nutritional Medicine.* Avon Books, New York. 509pp.

Antiinflammatory 100 mg 4 x/day Werbach, M. 1993. *Healing with Food.* Harper Collins, New York, 443 pp.

Antiinsomniac Davies, S., and Stewart, A. 1990. *Nutritional Medicine.* Avon Books, New York. 509pp.

Antilithic Pizzorno, J.E. and Murray, M.T. 1985. *A Textbook of Natural Medicine.* John Bastyr College Publications, Seattle, Washington (Looseleaf).

Antimastalgic Pizzorno, J.E. and Murray, M.T. 1985. *A Textbook of Natural Medicine.* John Bastyr College Publications, Seattle, Washington (Looseleaf).

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| Antimenopausal 500-750 mg/day             |  |  |  |  |  |
| Antimigraine 200 mg/day/man               | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |  |  |  |  |
| Antimitral-valve-prolapse                 |  |  |  |  |  |
| Antinephrolytic                           |  |  |  |  |  |
| Antineurotic                              | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |  |  |  |  |
| Antiosteoporotic 500-1,000 mg/day/wmn/orl |  |  |  |  |  |
| Antiplaque 500-1,000 mg/day               |  |  |  |  |  |
| Antiretinopathic 400 mg/day               | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |  |  |  |  |
| Antispasmodic                             |  |  |  |  |  |
| Antispasmophilic 500 mg/day               | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |  |  |  |  |
| Antistress 500-750 mg/day                 |  |  |  |  |  |
| Antistroke 400 mg/day                     | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |  |  |  |  |
| Antisyndrome-X 400 mg/man/day             | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |  |  |  |  |
| Anxiolytic 500-750 mg/day                 |  |  |  |  |  |
| CNS-Depressant                            | Facciola, S. 1998. Cornucopia - A Source Book of Edible Plants. Kampong Publications, Vista CA. 713 pp.  |  |  |  |  |
| Calcium-Antagonist                        |  |  |  |  |  |
| Cardioprotective                          |  |  |  |  |  |
| Diuretic                                  |  |  |  |  |  |
| Hypocholesterolemic 400 mg/day            | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |  |  |  |  |
| Hypotensive 260-500 mg/day                |  |  |  |  |  |
| Immunomodulator                           |  |  |  |  |  |
| Insulinogenic 400 mg/day                  | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |  |  |  |  |
| Laxative 300-500 mg/day                   |  |  |  |  |  |
| Litholytic                                |  |  |  |  |  |
| Myorelaxant 100 mg 4 x/day                | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |  |  |  |  |
| Neurotransmitter                          |  |  |  |  |  |
| Tranquilizer 500-750 mg/day               |  |  |  |  |  |
| Uterorelaxant 100 mg 4 x/day              | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |  |  |  |  |
| Vasodilator                               |  |  |  |  |  |

MANGANESE      Leaf      20.0      91.0      -0.31      \*

**Activities (14)**

|                                 |  |  |  |  |  |
|---------------------------------|--|--|--|--|--|
| AntiPMS                         |  |  |  |  |  |
| Antialcoholic                   | Forest H. Nielsen, USDA, Grand Forks, various publications.  |  |  |  |  |
| Antianemic                      | Martindale's 28th  |  |  |  |  |
| Antiarthritic                   |  |  |  |  |  |
| Antidiabetic 3-5 mg/day         | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |  |  |  |  |
| Antidiabetic 10-30 mg/man/day   |  |  |  |  |  |
| Antidiscotic                    | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |  |  |  |  |
| Antidyskinetic                  | Martindale's 28th  |  |  |  |  |
| Antiepileptic 450 mg/day        | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |  |  |  |  |
| Antiosteoporotic                |  |  |  |  |  |
| Antiototic                      | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |  |  |  |  |
| Antioxidant                     |  |  |  |  |  |
| Antisyndrome-X 10-30 mg/man/day | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |  |  |  |  |
| Hypoglycemic 10-30 mg/man/day   |  |  |  |  |  |

N-PENTATRIACONTANE      Shoot      --      --      --      \*

N-PENTATRIACONTANE      Bark      --      --      --      \*

N-TRIACONTANE      Shoot      --      --      --      \*

N-TRIACONTANE      Bark      --      --      --      \*

NARINGENIN-4'-METHYL-ETHER      Shoot      --      7.5      --      \*

NIACIN      Leaf      15.0      70.0      -0.33      \*

**Activities (39)**

|                                      |  |
|--------------------------------------|--|
| Allergenic                           | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| AntiLyme 50 mg/day                   |  |
| AntiMeniere's                        | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.                                 |
| AntiRaynaud's 1,500-4,000 mg/day     |  |
| Antiacrodynic                        |  |
| Antiallergic 50 mg/2x/day            | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antialzheimeran                      |  |
| Antiamblyopic                        |  |
| Antianginal                          |  |
| Anticataract                         |  |
| Antichilblain                        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| Anticonvulsant 3 g/day               | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antidementia                         |  |
| Antidermatitic                       | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antidiabetic                         |  |
| Antidysphagic                        |  |
| Antiepileptic 3 g/day                | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antihangover 50 mg                   |  |
| Antihistaminic 50 mg 2x/day          | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antihyperactivity 1.5-6 g/day        | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiinsomnic 1 g/day                 | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antineuralgic                        |  |
| Antiparkinsonian 100 mg/day          | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antipellagric                        | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antiscotomic                         |  |
| Antispasmodic 100 mg 2x/day          | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antivertigo                          |  |
| Cancer-Preventive                    | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Cardioprotective                     |  |
| Circulotonic                         |  |
| Fibrinolytic                         |  |
| Hepatoprotective                     |  |
| Hepatotoxic                          |  |
| Hypocholesterolemic 50-100 mg 3x/day |  |
| Hypoglycemic                         |  |
| Hypolipidemic                        |  |
| Sedative                             | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Serotonergic                         | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).               |
| Vasodilator                          | Martindale's 29th  |

|                  |                     |    |    |  |  |
|------------------|---------------------|----|----|--|--|
| PENTATRIACONTANE | Resin, Exudate, Sap | -- | -- |  | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
|------------------|---------------------|----|----|--|--|

**Activities (1)**

Herbistat

|              |      |        |         |      |   |
|--------------|------|--------|---------|------|---|
| PERSICOGENIN | Leaf | --     | 36000.0 | *    |   |
| PHOSPHORUS   | Leaf | 2332.0 | 10600.0 | 1.04 | * |

**Activities (4)**

|                  |  |
|------------------|--|
| Antiosteoporotic | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Anxiolytic       |  |
| Immunostimulant  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Osteogenic       | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |

|              |       |    |    |  |  |
|--------------|-------|----|----|--|--|
| PHYTOSTEROLS | Plant | -- | -- |  | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
|--------------|-------|----|----|--|--|

**Activities (2)**

Antiprostatic  
Hypocholesterolemic



## PINOCEMBRIN

Plant

--

--

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

**Activities (9)**

|                            |   |
|----------------------------|---|
| Anesthetic                 | 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. |
| Antibacterial IC 3 ug/ml   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.                                |
| Antileukemic               |   |
| Antiseptic                 |   |
| Artemicide LC50=12 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. |
| Candidicide IC 0.1-3 mg/ml | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.                                |
| Cytotoxic ED50=21          |   |
| Fungicide                  |   |
| Pesticide                  |   |

## PINOCEMBRIN

Shoot

--

3.7

-0.72

\*

**Activities (9)**

|                            |   |
|----------------------------|---|
| Anesthetic                 | 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. |
| Antibacterial IC 3 ug/ml   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.                                |
| Antileukemic               |   |
| Antiseptic                 |   |
| Artemicide LC50=12 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. |
| Candidicide IC 0.1-3 mg/ml | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.                                |
| Cytotoxic ED50=21          |   |
| Fungicide                  |   |
| Pesticide                  |   |

## POTASSIUM

Leaf

2068.0

9400.0

-0.92

\*

**Activities (14)**

|                                 |  |
|---------------------------------|--|
| Angiotensin-Receptor-Blocker    |  |
| Antiarrhythmic                  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antidepressant                  | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antifatigue                     | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antihypertensive                |  |
| Antispasmodic                   | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antistroke                      |  |
| Anxiolytic                      |  |
| Beta-Blocker                    |  |
| Cardioprotective 3,000-5,000 mg |  |
| Cardiotoxic 18,000 mg/man/day   |  |
| Diuretic                        |  |
| Hypotensive                     |  |
| Vasodilator                     |  |

## PROTEIN

Leaf

13200.0

60000.0

-1.51

\*

## RESIN

Leaf

8800.0

80000.0

1.19

\*

## RIBOFLAVIN

Leaf

--

--

\*

**Activities (15)**

|                                     |   |
|-------------------------------------|---|
| AntiLyme 50 mg/day                  |   |
| Antiarabiflavonotic 2-10 mg/day orl | Martindale's 28th   |
| Anticarpal-Tunnel 50 mg/day         | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.                  |
| Anticataract 15 mg/day              | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.                  |
| Anticephalagic                      |   |
| Anticervicaldysplasic 1.6-10 mg/day |   |
| Anticheilitic                       |   |
| Antidecubitic                       |   |
| Antiglossitic                       | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.    |
| Antikeratitic                       |   |
| Antimigraine                        |   |
| Antioxidant                         |   |
| Antipellagic                        |   |
| Antiphotophobic                     | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.    |
| Cancer-Preventive                   | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp. |

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

**Activities (4)**

Antibacterial  
Antiseptic  
Fungicide 1 mM  
Pesticide

SAKURANETIN      Shoot      --      22.5      \*

**Activities (4)**

Antibacterial  
Antiseptic  
Fungicide 1 mM  
Pesticide

SELENIUM      Leaf      2.6      12.0      0.54      \*

**Activities (60)**

|                                  |   |
|----------------------------------|---|
| AP-1-Inhibitor 2-50 uM           |   |
| Analgesic 200 ug/day             | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.  |
| Anorexic                         | Cooper-Driver, G. A., Chemical substances in plants toxic to animals, pp. 213-47 in Rechcigl, M., Jr., ed. CRC Handbook of Naturally Occurring Food Toxicants, CRC Press, Boca Raton, 1983, 339 pp. |
| AntiHIV                          |   |
| AntiNF-kB                        |   |
| Antiacne 200 ug/day              | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.  |
| Antiaggregant                    | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).  |
| Antiangiogenic 2 uM              |   |
| Antiangiogenic 230 ug/kg orl rat |   |
| Antiarthritic                    |   |
| Antiasthmatic                    |   |
| Antiatherosclerotic              |   |
| Anticataract 400 ug/day          |   |
| Anticirrhotic                    | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.  |
| Anticlimacteric 200 ug/day       |   |
| Anticoronary 200 ug/day          |   |
| Antidandruff                     | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.  |
| Antidepressant 200 ug/day        |   |
| Antidote (Mercury)               | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.  |
| Antifibrotic 400 ug              |   |
| Antigout 200 ug                  |   |
| Antikeshan                       | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.  |
| Antileukemic 1.6 mg/kg ipr mus   |   |
| Antileukotriene                  | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).  |
| Antimaculitic                    |   |
| Antimelanomic 480 ug/kg          |   |
| Antimenopausal 200 ug/day        |   |
| Antimetastatic 480 ug/kg         |   |

|   |  |
|---|--|
| Antimyalgic 200 ug/day                    | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiosteoarthritic                        |  |
| Antioxidant 100-200 (-400) ug/man/day     |  |
| Antiparkinsonian 200-400 ug/day           |  |
| Antiproliferant 2 uM                      |  |
| Antiradicular 100-200 (-400) ug/man/day   | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95                                   |
| Antirheumatic                             |  |
| Antisyndrome-X 100-200 (-400) ug/man/day  | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95                                   |
| Antitumor 100-200 (-400) ug/man/day       | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95                                   |
| Antitumor (Breast) 333.6 ug/day           |  |
| Antitumor (Breast) 0.8 mg/kg scu mus      |  |
| Antitumor (Breast) 150 ug/kg diet rat     |  |
| Antitumor (Breast) 230 ug/kg orl rat      |  |
| Antitumor (Lung) 240 ug/kg diet           |  |
| Antitumor (Prostate)                      |  |
| Antitumor (brain) 38-150 ug/kg            |  |
| Antiulcerogenic                           | Rafatullah, S., Tariq, M., Al-Yahya, M.A., Mossa, J.S., and Ageel, A.M. 1989. Evaluation of Turmeric ( <i>Curcuma longa</i> ) for Gastric and Duodenal Antiulcer Activity in Rats. <i>J. of Ethnopharmacology</i> , 29: 25-34, 1990. |
| Anxiolytic                                |  |
| Apoptotic                                 |  |
| Cancer-Preventive                         | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Cardioprotective 200 ug/day               |  |
| Depressant                                | Cooper-Driver, G. A., Chemical substances in plants toxic to animals, pp. 213-47 in Rechcigl, M., Jr., ed. CRC Handbook of Naturally Occurring Food Toxicants, CRC Press, Boca Raton, 1983, 339 pp.                                  |
| Fungicide                                 | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Immunomodulator                           |  |
| Immunostimulant 100-200 (-400) ug/man/day | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95                                   |
| NF-kB-Inhibitor                           |  |
| Ornithine-Decarboxylase-Inhibitor         |  |
| Pesticide                                 |  |
| Polyamine-Synthesis-Inhibitor             |  |
| Prostaglandin-Sparer                      | Fujita, T., Nakatani, E., Funaishi, N., Sakuma, S., Fujimoto, Y. Potent inhibition of prostaglandin inactivation in rabbit gastric antral mucosal slices by selenium ions in-vitro. <i>J. Pharm. Pharmacol.</i> 42: 655-657, 1990.   |
| Protein-Kinase-C-Inhibitor IC50=2-50 uM   |  |
| VEGF-Inhibitor                            |  |

SILICON                      Leaf              1.5              7.0              -0.39              \*

**Activities (4)**

|                      |  |
|----------------------|--|
| Antiarteriosclerotic | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
| Antionychyotic       |  |
| Antiosteoporotic     |  |
| Cardioprotective     |  |

SODIUM                      Leaf              84.0              380.0              -0.58              \*

**Activities (1)**

|              |  |
|--------------|--|
| Hypertensive | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp. |
|--------------|--|

SUGARS                      Leaf              19800.0              90000.0              0.36              \*

TANNIC-ACID              Shoot              --              --                           \*

**Activities (41)**

|   |   |
|---|---|
| Aldose-Reductase-Inhibitor IC50=1.8 ug/ml | Sawada, H., Hamatake, M., Hara, A., Nakagawa, M., Nakayama, T. 1989. Inhibition of Human Placenta Aldose Reductase by Tannic Acid. Chem Pharm Bull, 37(6): 1662-1664.   |
| Allergenic                                |   |
| 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. Journal of Natural Products, 54(1): 143-154, 1991. |
| Antianacarditic (Rhus)                    |   |
| Antibacterial                             |   |
| Anticariogenic                            |   |
| Anticolitic                               |   |
| Antidecubitic                             |   |
| Antidermatotic                            |   |
| Antidiarrheic                             |   |
| Antidote For Heavy Metals                 | Merck 11th Edition  |
| Antidysenteric                            | Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.   |
| Antiencephalitic                          | Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.   |
| Antienteric                               | Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.   |
| Antifeedant 2-4% diet                     |   |
| Antigargantitic                           |   |
| Antigingivitic                            |   |
| Antihemorrhoidal                          | Martindale's 29th   |
| Antiherpetic                              |   |
| Antimutagenic                             | Economic & Medicinal Plant Research, 6: 235.  |
| Antinitrosaminic                          |   |
| Antioesity (Antinutrient)                 | Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.   |
| Antiophidic                               |   |
| Antioxidant IC56=30 ppm                   |   |
| Antipharyngitic                           |   |
| Antipolio                                 | Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.   |
| Antirhinitic                              |   |
| Antiseptic                                | Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.                              |
| Antistomatitic                            |   |
| Antitonsilitic                            |   |
| Antiulcer                                 | Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.   |
| Antiviral                                 | Antiviral Research, 14: 323.  |
| Astringent                                | Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.                              |
| Cytotoxic 15 ug                           |   |
| Detoxicant                                | Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.   |
| Emetic                                    | Martindale's 29th   |
| FLavor FEMA 1-1,000                       | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |
| Hemostat                                  | Merck 11th Edition  |
| Hepatotoxic                               | Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.   |
| Immunostimulant                           | McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.  |
| Pesticide                                 |   |

TANNIN                      Plant                      --                      --                      Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

**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 mu     |  |  |  |  | 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            |  |  |  |  |   |

|             |                           |    |         |  |  |
|-------------|---------------------------|----|---------|--|--|
| THIAMINE    | Leaf                      | -- | --      |  | *  |
| TRIACONTANE | Resin,<br>Exudate,<br>Sap | -- | --      |  | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| VELUTIN     | Leaf                      | -- | 45000.0 |  | *  |

**Activities (1)**

|  |   |
|--|---|
| Topoisomerase-I-Inhibitor<br>0.1 ug/ml | Zahir, A., Jossang, A., Bodo, B., Provost, J., Cosson, J. P., Sevenet, T. 1996. DNA Topoisomerase I Inhibitors: Cytotoxic Flavones From Lethedon tannaensis. J Natural Products, 59: 701-703. |
|--|---|

|                   |                           |     |          |       |  |
|-------------------|---------------------------|-----|----------|-------|--|
| WATER             | Leaf                      | --  | 780000.0 | -0.14 | *  |
| XANTHOERIDOL      | Shoot                     | --  | --       |       | *  |
| XANTHOERIODICTYOL | Resin,<br>Exudate,<br>Sap | --  | --       |       | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| ZINC              | Leaf                      | 0.4 | 1.7      | -0.52 | *  |

**Activities (77)**

|                      |
|----------------------|
| ACE-Inhibitor        |
| Analgesic            |
| AntiBPH 25-60 mg/day |

|  |  |
|--|--|
| AntiCrohn's                            | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| AntiHIV                                |  |
| Antiacne 135 mg/day                    |  |
| Antiacrodermatitic 8-34 mg/day/orl/chd | Martindale's 29th  |
| Antialcoholic                          |  |
| Antialopepic                           | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antialzheimeran 50 mg/day              | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiangiogenic                         |  |
| Antianorexic                           | Martindale's 29th  |
| Antiarthritic 50 mg/3x/day/orl/man     |  |
| Anticanker 100 mg/day                  | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Anticataract 30 mg/day                 | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Anticoeliac                            | Martindale's 28th  |
| Anticold 50 mg                         | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Anticolitic                            | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Anticoronary 30 mg/day                 | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antidandruff                           | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antidementia                           |  |
| Antidiabetic 30 mg/day                 | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antidote (Cadmium)                     | Let's Live, May 1989.  |
| Antidysgeuzic                          |  |
| Antieczemic 150 mg/day                 | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiencephalopathic                    | Martindale's 29th  |
| Antiepileptic 100 mg/day               | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antifibrotic 30 mg                     |  |
| Antifuruncular 45 mg/3x/day/man        | Martindale's 28th  |
| Antihangover 15 mg                     |  |
| Antiherpetic? 25-60 mg/day             |  |
| Antiimpotence                          | Martindale's 29th  |
| Antiinfective 50 mg/day                | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiinfertility 60 mg/day              | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antiinsomniac                          | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antileptic                             | Martindale's 29th  |
| Antileukonychic                        |  |
| Antilymphomic                          |  |
| Antimaculitic                          |  |
| Antimetastatic                         |  |
| Antineuropathic                        |  |
| Antinyctalopic                         |  |
| Antiobesity 30 mg/day                  | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antiosteoporotic                       |  |
| Antiperiodontitic                      |  |
| Antiplaque                             | Martindale's 29th  |
| Antiprolactin                          | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Antiprostatic 50 mg/man/day/orl        | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).   |
| Antirheumatic                          | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Antiseptic 50 mg/day                   | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antispare-Tire 30 mg/day               | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antistomatitic 50 mg/man/3x/day        | Martindale's 28th  |
| Antisyndrome-X 30 mg/day               | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antitinnitic 60-120 mg/day             | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Antitriglyceride 30 mg/day             | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Antiulcer 50 mg/3x/day/man             | Martindale's 28th  |
| Antiulcer 88 mg/rat/day/15 days        |  |
| Antiviral?                             | Martindale's 29th  |
| Astringent                             | Martindale's 28th  |
| Collagenic                             |  |
| Copper-Antagonist                      | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Deodorant                              | Martindale's 29th  |
| Detoxicant (Alcohol)                   |  |

|  |  |
|--|--|
| Ergogenic                                  |  |
| Hypotensive 30 mg/day                      | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Immunomodulator                            |  |
| Immunostimulant                            | Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.   |
| Immunosuppressant 300 mg/day/6 wks/orl/man | Martindale's 29th  |
| Insulinogenic 30 mg/day                    | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Leptingenic 30-60 mg/man/day               | Challem, J., Berkson, Burt, and Smith, Melissa Dianne. 2000. Syndrome X - The complete nutritional program to prevent and reserve insulin resistance. John Wiley & Sons, New York. 272 pp. \$24.95 |
| Mucogenic                                  | Li, K.M. Effect of zinc sulphate on acetic acid-induced gastric ulceration in rats. J. Pharm. Pharmacol. 42: 657-659, 1990.  |
| NF-kB-Inhibitor                            |  |
| Pesticide                                  |  |
| Spermigenic 60 mg/day                      | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Testosteronigenic 60 mg/day                | Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.   |
| Trichomonicide                             | Martindale's 29th  |
| Vulnerary                                  | Martindale's 28th  |