

# List of All Chemicals

## Adonis vernalis (Ranunculaceae)


### Common name(s)

Spring Adonis

### 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	All 	Low PPM	High PPM	StdDev	*Reference
16-HYDROXYSTROPHANTHIDINE	Plant		--	--		*
16-HYDROXYSTROPHANTHIDINE	Leaf		--	--		*
3-ACETYLSTROPHADOGENIN	Plant		--	--		*
3-EPI-PERIPLOGENIN	Plant		--	--		*
ACETYLADONITOXIN	Plant		--	--		*
ACONITIC-ACID	Plant		--	--		*
<b>Activities (1)</b>						
Perfumery FEMA 1-30 ppm	Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry					
ADONIDIC-ACID	Plant		--	--		*
ADONIDINE	Plant		--	--		*
ADONIDOSIDE	Plant		--	--		*
ADONITIC-ACID	Plant		--	--		*
ADONITOL	Plant		--	40000.0		*
ADONITOXIGENIN	Plant		--	--		*
ADONITOXIGENIN-2-ACETYL-RHAMNOSIDE	Plant		--	--		*
ADONITOXIGENIN-3-(O-ALPHA-L{2'O-ACETYL}-RHAMNOSIDO)-BETA-D...	Plant		--	--		*
ADONITOXIGENIN-3-(O-ALPHA-L{3'O-ACETYL}-RHAMNOSIDO)-BETA-D...	Plant		--	--		*
ADONITOXIGENIN-3-O-ALPHA-L-RHAMNOSIDO-BETA-D-GLUCOSIDE	Plant		--	--		*
ADONITOXIN	Plant		--	--		*
<b>Activities (1)</b>						
Cardiotonic	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.					
ADONITOXIN	Leaf		--	--		*
<b>Activities (1)</b>						
Cardiotonic	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.					
ADONITOXOL	Plant		--	--		*
ADONIVERNIDASE	Plant		--	--		*
ADONIVERNITH	Plant		--	--		*
ADONIVERNOSIDE	Plant		--	--		*
<b>Activities (1)</b>						
Cardiac	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.					
BERBERINE	Plant		--	--		*

**Activities (130)**

(+)-Inotropic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Abortifacient	
Adrenolytic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Amebicide 200 ug/ml	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Amebicide EC83=100 ug/ml orl rat	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Analgesic	
Anesthetic	
Antiacetylcholinesterase	
Antiacne	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antiadrenergic	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.
Antiaggregant	
Antialzheimeran	
Antiamnesic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antiangiogenic	
Antiarrhythmic	
Antiartritic	
Antibacillus MIC=200 ug/ml	
Antibacterial 100 mg/4x/day	
Antibacterial 12.5-2,500 ug/ml	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antibacterial MIC=6-630 ug/ml	
Antibiotic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticancer	
Anticariogenic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antichlamydial	
Anticholecystic 5-20 mg/3x/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticholera 150 mg/man/day	Martindale's 28th
Anticirrhotic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticonjunctivitic 0.20%	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticonvulsant	Williamson, E. M. and Evans, F. J., <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i> , Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antidiarrheic 100 mg/4x/day	
Antidysenteric 100 mg/4x/day	
Antiedemic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antientotoxic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Antienterotoxic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiesherichic	
Antigiardial 10 mg/kg/day	
Antiglaucomic	
Antigonorrhoea	
Antihepatomic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antihepatotic	
Antiherpetic	
Antihistaminic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Antiinflammatory	
Antiischemic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antileishmanic 10 ug/ml	
Antilipogenic IC63=10 uM	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antimalarial 0.14-0.36 ug/ml	
Antimalarial 50 uM	
Antimitotic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antimuscarinic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Antimyalgic	
Antimycotic	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.
Antineoplastic	
Antinephritic	
Antiperistaltic	Bruneton, J. 1999. <i>Pharmacognosy, Phytochemistry, Medicinal Plants</i> . 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
Antipharyngitic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiphotooxidative	
Antiplasmodial IC50=0.14-0.36 ug/ml	
Antipneumonic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antipyretic 3 x aspirin	
Antisalmonella	

Antisecretory	
Antiseptic 25 ug/ml	
Antishigellc 12.5 ug/ml	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antispasmodic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antispermigenic	
Antistaphylococcic	
Antistrep	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antisyphilitic	
Antitrachomic 0.20%	
Antitrypanosomic	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.
Antitubercular MIC=25 ug/ml	
Antitumor (brain) IC91=150 ug/ml	Werbach & Murray, 1994.
Antiulcer	
Antivaginitic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antiviral	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Astringent	
Bilirubinolytic	
COX-2-Inhibitor 100 ug/ml	
Calcium-Antagonist	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livinston, Edinburgh.
Candidicide	
Cardiodepressant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Cardiotonic	
Carminative	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Cholagogue	
Cholekinetic	
Choleretic	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.
Collyrium	
Cyclooxygenase-Inhibitor	
Cytotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Digestive	
Diuretic	
Emetic	
Fungicide 12.5-150 ug/ml	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Glaucomagenic	
Hemostat	
Hypocholesterolemic	Ivorra, M.D., Paya, M., and Villar, A. 1989. A Review of Natural Products and Plants as Potential Antidiabetic Drugs. Journal of Ethnopharmacology, 27: 243-275, 1989.
Hypoglycemic	
Hypotensive	
Immunostimulant	
Lachrymatory	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livinston, Edinburgh.
Larvicide 9 ppm	
Leucocytogenic	
Lipase-Inhibitor	Medline (post 1990 searches filed in my computer)
Lipoxygenase-Inhibitor IC50=118 uM	
Mutagenic	
Mycobactericide MIC=25-50 ug/ml	
Mydriatic	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livinston, Edinburgh.
Myocardiodepressant	
Myorelaxant	
Pesticide	
Phototoxic 9 ppm	
Plasmodicide IC50=0.14-0.36 ug/ml	
Prostaglandin-Synthesis-Inhibitor 25 mg/kg ivn rbt	Huang, C. G., Chu, Z. L., Yang, Z. M. 1991. Effect of Berberine on Synthesis of Platelet TXA2 and Plasma PGI2 in Rabbits. Chung-Kuo Yao Li Hsueh Pao, 12(6): 526-528.
Protisticide IC50=0.14-0.36 ug/ml	
RNA-Depressant	
RT-Inhibitor	
Respiradepressant	Martindale's 28th
Sedative	
Stomachic	
Topoisomerase-II-Inhibitor 2.5 uM	Kobayashi, Y, Yamashita, Y., Fujii, N., Takaboshi, K., Kawakami, T., Kawamura, M., Mizukami, T., Nakano, H. 1995. Inhibitors of DNA Topoisomerase I and II Isolated From the Coptis Rhizomes. Planta Medica, 61: 414-418.

Trichomonicide	Martindale's 29th
Trypanocide	
Uterocontractant	
Uterotonic	Williamson, E. M. and Evans, F. J., <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i> , Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Vagostimulant man	
Vasoconstrictor	
Vasodilator 2 mg/kg cat	
Vermifuge	
Vibriofuge	

BETA-ACETYLDONITOXIN	Leaf	--	--	*
BETA-D-DIGINOSIDE	Plant	--	--	*
CAFFEIC-ACID	Plant	--	--	*

#### Activities (102)

Aldose-Reductase-Inhibitor 4 ug/ml (weak activity)	Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. <i>Sankyo Kenkyusho Nempo</i> , 43: 99-110.
Allergenic	
Analgesic	
AntiHIV EC50=200 ug/ml	
AntiLegionella	
Antiadenoviral	<i>Economic &amp; Medicinal Plant Research</i> , 5: 207.
Antiaggregant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antiaging	
Antiatherogenic	
Antibacterial	
Anticancer	
Anticarcinogenic	<i>Economic &amp; Medicinal Plant Research</i> , 6: 189.
Antidepressant	
Antiedemic	<i>Economic &amp; Medicinal Plant Research</i> , 6: 189.
Antielastase IC50=93 um/l	
Antielastase IC50=86 ug/ml (475 uM)	
Antiescherichic	
Antiflu	<i>Economic &amp; Medicinal Plant Research</i> , 5: 207.
Antigonadotropic	Jim Duke's personal files.
Antihemolytic 25 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antihepatoadenomic 200 ppm diet orl mus	
Antihepatotoxic	
Antiherpetic 50 ug/ml	
Antiherpetic EC50=>50 ug/ml	
Antihistaminic	
Antihypercholesterolemic	<i>Economic &amp; Medicinal Plant Research</i> , 6: 189.
Antihyperthyroid	
Antiinflammatory	
Antileukemic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antileukotriene	
Antimelanogenic	
Antimutagenic	Ki Soon Rhee. <i>Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health</i> , Ch.18.
Antinitrosaminic	Ki Soon Rhee. <i>Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health</i> , Ch.18.
Antiphidic	
Antioxidant 50 uM	
Antioxidant IC57=30 ppm	
Antioxidant 1/3 quercetin	
Antioxidant 30 mM	
Antioxidant 1.3 x Vit. E	
Antioxidant 1/2 BHA	
Antiperoxidant IC50=44 uM	<i>Planta Medica</i> , 57: A54, 1991.
Antiperoxidant IC35=200 ug/ml	
Antiperoxidant IC85=100 ug/ml	
Antiproliferant	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antiprostaglandin	

Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antiradicular 1/3 quercetin	
Antiradicular 30 mM	
Antiradicular IC50=32-35 uM	
Antiseptic	
Antispasmodic EC50=3.4-15 uM	Phytotherapy Research, 4: 73.
Antistaphylococcic	
Antistomatitic	Economic & Medicinal Plant Research, 5: 207.
Antisunburn	
Antithiamin	Phenolic Compounds in Food and Their Effects on Health, 69.
Antithyroid	Jim Duke's personal files.
Antitumor 200 ppm diet orl mus	
Antitumor (Skin)	
Antitumor-Promoter IC42=10 uM	Cancer Research, 48: 5941.
Antiulcerogenic	
Antivaccinia	Economic & Medicinal Plant Research, 5: 207.
Antiviral IC50=62.5 ug/ml	
Anxiolytic	
CNS-Active	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
COX-2-Inhibitor IC32=100 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic 2% (diet)	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	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.
Clastogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Co-carcinogenic	
Collagen-Sparing	
Cytoprotective	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Cytotoxic TC50=200 ug/ml	
DNA-Active	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
DNA-Protective	
Diuretic	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Fungicide MIC=0.4 mg/ml	
Hepatocarcinogenic 400 ppm diet orl mus (in the absence of alcohol)	
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 210.
Hepatotropic	
Histamine-Inhibitor	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in Achillea millefolium L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.
Leukotriene-Inhibitor	
Lipoxygenase-Inhibitor IC27=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.
Lipoxygenase-Inhibitor IC50=62-148 uM	
Lyase-Inhibitor IC50=94-164 uM	
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.25.
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Pesticide	
Prooxidant	
Prostaglandigenic	
Sedative 500 mg	
Sunscreen IC50=2.5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.
Sunscreen IC91=5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.
Sunscreen IC98=25 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.
Tumorigenic	Jim Duke's personal files.
Vulnerary	
Xanthine-Oxidase-Inhibitor IC50=39.21 uM	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy</i> . Churchill Livinston, Edinburgh.

**Activities (77)**

Aldose-Reductase-Inhibitor IC50=1.8 uM rat (strong activity)	Yoshikawa, M., et al. 1999. Medicinal Flowers. I. Aldose Reductase Inhibitors and Three New Eudesmane-Type Sesquiterpenes, Kikkanols A, B, and C, From the Flowers of <i>Chrysanthemum indicum</i> L. <i>Chem Pharm Bull</i> , 47(3): 340-345.
Allelochemic	
Allergenic	
Analgesic	
AntiEBV	<i>Economic &amp; Medicinal Plant Research</i> , 6: 189.
AntiHIV	<i>Economic &amp; Medicinal Plant Research</i> , 6: 189.
AntiLegionella	
Antiatherosclerotic	
Antibacterial	
Anticancer (Colon)	
Anticancer (Forestomach)	
Anticancer (Liver)	
Anticancer (Skin)	
Anticarcinogenic	
Antidiabetic	
Antifeedant	
Antigenotoxic	
Antigonadotropic	Jim Duke's personal files.
Antihemolytic 10 uM	Ohnishi, M., Morishita, H., Iwashashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antihepatotoxic	
Antiherpetic	<i>Economic &amp; Medicinal Plant Research</i> , 5: 194.
Antihistaminic	
Antihypercholesterolemic	<i>Economic &amp; Medicinal Plant Research</i> , 6: 189.
Antihyperthyroid	
Antiinflammatory	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Antileukotriene	
Antimelanogenic	
Antimutagenic	
Antinitrosaminic	
Antioxidant IC53=200 ppm	Huang, M-T., and Ferraro, T. <i>Phenolic Compounds in Food and Cancer Prevention</i> . <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.2 p.21.
Antioxidant IC80=12 uM	
Antioxidant IC50=54.2 uM	
Antiperoxidant IC50=36 uM	<i>Planta Medica</i> , 57: A54, 1991.
Antipolio	Jim Duke's personal files.
Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwashashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antiradicular 9 x quercetin	
Antiseptic	
Antisunburn	
Antithyroid	Jim Duke's personal files.
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antitumor (Colon)	
Antitumor (Forestomach)	
Antitumor (Liver)	
Antitumor (Skin)	
Antitumor-Promoter IC25=10 uM	
Antiulcer	<i>Economic &amp; Medicinal Plant Research</i> , 6: 189.
Antiviral	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.
Autotoxic	
CNS-Active	Wichtl, M. 1984. <i>Teedrogen. Ein Handbuch fur Apotheker und Arzte</i> . Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
CNS-Stimulant 1/6 Caffeine	
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. <i>Teedrogen. Ein Handbuch fur Apotheker und Arzte</i> . Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.
Clastogenic	Friedman, M. and Dao, L. 1990. Effect of Autoclaving and Conventional and Microwave Baking on the Ergot Alkaloid and Chlorogenic Acid Contents of Morning Glory ( <i>Ipomoea tricolor</i> Cav. cv.) Heavenly Blue Seeds. <i>J. Agric. Food Chem.</i> 38: 805-808.
Collagen-Sparing	
Diuretic	
Fungicide	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.

Hepatoprotective	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Histamine-Inhibitor	
Hypoglycemic	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in <i>Achillea millefolium</i> L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.
Interferonogenic	<i>Economic &amp; Medicinal Plant Research</i> , 1: 124.
Juvabional	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvostat	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Leukotriene-Inhibitor	
Lipoxygenase-Inhibitor IC23=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.25.
NO-Genic	
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Oviposition-Stimulant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Pesticide	
Sunscreen	
Sweetener	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients 2nd Ed.</i> John Wiley & Sons, New York. 649 pp.
Vulnerary	

CHOLINE Plant -- -- \*

#### Activities (20)

Antialzheimeran 5-16 g/man/day	
Antichoreic	Davies, S., and Stewart, A. 1990. <i>Nutritional Medicine</i> . Avon Books, New York. 509pp.
Anticirrhotic 6,000 mg/man/day	
Anticystinuric	
Antidementia	
Antidiabetic	
Antidyskinetic 150-200 mg/kg/man/day	Martindale's 28th
Antihomocysteine	
Antimanic 15-30 g/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine</i> . John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antinociceptive	
Antisteatotic	
Cardiodepressant	
Cerebrotonic	
Cholinergic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
Hepatoprotective	
Hypotensive	
Ileorelaxant	
Lipotropic	
Memorigenic	
Parasympathomimetic (1/1,000th acety/choline)	Neuwinger, H. D. 1996. <i>African Ethnobotany - Poisons and Drugs</i> . Chapman & Hall, New York. 941 pp.

CITRIC-ACID Plant -- -- \*

**Activities (23)**

Allergenic	
Alpha-Amylase-Inhibitor	
Antiaphthtic 20,000 ppm	Martindale's 28th
Antiatherosclerotic	
Antibacterial	
Anticalculic	
Anticoagulant	Merck 11th Edition
Antileishmanic	
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antioxidant Synergist	Merck 11th Edition
Antiseborrheic	
Antiseptic	Martindale's 29th
Antitubercular	
Antitumor	Economic & Medicinal Plant Research, 6: 235.
Disinfectant	Martindale's 29th
FLavor FEMA 370- 4,400	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Hemostat	
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Laxative?	Lawrence Review of Natural Products, Sep-91.
Litholytic	Martindale's 29th
Mycobactericide	
Odontolytic	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Refrigerant	Martindale's 28th

CYMARIN Leaf -- -- \*

**Activities (6)**

Anticarcinomic ED50=3.9 ppb	
Cardiotonic	Merck 11th Edition
Myocardi tonic	
Myotonic	
Pesticide	
Vasodilator	

DEXTRIN Plant -- -- \*

K-STROPHANTHIDIN Plant -- -- \*

K-STROPHANTHIN Plant -- -- \*

K-STROPHANTHIN Leaf -- -- \*

L-ASPARAGINE Plant -- -- \*

L-RHAMNOSE Plant -- -- \*

LINOLEIC-ACID Plant -- -- \*



**Activities (27)****5-Alpha-Reductase-Inhibitor**

AntiMS	Economic & Medicinal Plant Research, 6: 189.
Antiacne	
Antiallopecic	
Antianaphylactic	Economic & Medicinal Plant Research, 6: 189.
Antiandrogenic	
Antiarteriosclerotic	
Antiarthritic	Economic & Medicinal Plant Research, 6: 189.
Anticoronary	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antieczemic	Economic & Medicinal Plant Research, 6: 189.
Antifibrinolytic	Economic & Medicinal Plant Research, 1: 53.
Antigranular	
Antihistaminic	Economic & Medicinal Plant Research, 6: 189.
Antiinflammatory IC50=31 uM	
Antileukotriene-D4 IC50=31 uM	
Antimenorrhagic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiprostatic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic	Science News, 146: 421.
Comedolytic	
Hepatoprotective	
Hypocholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Immunomodulator	Economic & Medicinal Plant Research, 6: 189.
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Metastatic	Science News, 146: 421.
Nematicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Propecic	

LINOLEON	Plant	--	--	*
LUTEOLINXYLOSIDE	Plant	--	--	*
ORIENTIN-2'-O-BETA-D-XYLOPYRANOSIDE	Plant	--	--	*
PALMITIC-ACID	Plant	--	--	*

**Activities (13)****5-Alpha-Reductase-Inhibitor**

Antiallopecic	
Antiandrogenic	
Antifibrinolytic	Economic & Medicinal Plant Research, 1: 53.
Antioxidant IC40=60	
FLavor FEMA 1	Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry
Hemolytic	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
Hypercholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Lubricant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Nematicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Pesticide	
Propecic	
Soap	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

PENTATRIACONTANE	Plant	--	--	*
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**Activities (1)****Herbistat**

PENTOSANS	Plant	--	140000.0	-0.09	*
PHYTOSTEROLS	Plant	--	--		*

Activities (2)					
Antiprostatotic					
Hypocholesterolemic					
PROTEIN	Plant	--	140000.0	-0.27	*
QUERCITRIN	Plant	--	--		*
Activities (44)					
ACE-Inhibitor IC50=0.67 mM/					
Aldose-Reductase-Inhibitor IC50=2 uM	Terashima, S., Shimizu, M., Nakayama, H., Ishikura, M., et al. 1990. Studies on Aldose Reductase Inhibitors from Medicinal Plant of 'Sinfito,' <i>Potentilla candicans</i> , and Further Synthesis of Their Related Compounds. <i>Chem. Pharm. Bull</i> 38(10):2733-2736, 1990				
Aldose-Reductase-Inhibitor IC55=0.15 uM					
Aldose-Reductase-Inhibitor 0.1-100 uM					
Aldose-Reductase-Inhibitor 0.5-4 ug/ml					
Aldose-Reductase-Inhibitor IC50=64 uM rat	Al-Khalil, S. 1996. Inhibition of Lens Alkaloids Reductase by Protopine Alkaloids. <i>Saudi Pharm J</i> , 4(1): 45-47.				
Aldose-Reductase-Inhibitor IC55=0.1 uM					
Antiarrhythmic					
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.				
Anticataract					
Antiedemic	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs.</i> CRC Press, Boca Raton, FL 388 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, <i>Herbs, Spices &amp; Medicinal Plants: Recent Advances in Botany, Horticulture, &amp; Pharmacology</i> , v. 4, Oryx Press, Phoenix, 1989, 267pp.				
Antiflu	Leung, A.Y., <i>Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics</i> , John Wiley & Sons, New York, 1980.				
Antihemorrhagic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.				
Antihepatotoxic					
Antiherpetic	Economic & Medicinal Plant Research, 5: 198.				
Antiinflammatory	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs.</i> CRC Press, Boca Raton, FL 388 pp.				
Antimutagenic ID50=2-5 nM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. <i>ACS Symposium Series 507.ACS</i> , Washington 402 pp.				
Antioxidant IC50=120 uM					
Antipurpuric					
Antispasmodic					
Antistaphylococcic 0.41%					
Antithrombogenic					
Antitumor					
Antiulcer	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.				
Antiviral					
CNS-Depressant					
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli.</i> Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Cardiotonic					
Choleretic	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients 2nd Ed.</i> John Wiley & Sons, New York. 649 pp.				
Cyclooxygenase-Activator 200 uM	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. <i>Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)</i> , 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.				
Detoxicant	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients 2nd Ed.</i> John Wiley & Sons, New York. 649 pp.				
Diuretic	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs.</i> CRC Press, Boca Raton, FL 388 pp.				
Dye	Merck 11th Edition				
Hemostat	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.				
Hepatotonic					
Hypoglycemic	Economic & Medicinal Plant Research, 6: 189.				
Hypotensive					
Insectiphile	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.				
MAO-A-Inhibitor					
MAO-Inhibitor					
Paralytic					
Pesticide					
Vasopressor					
STROPHADOGENIN	Plant	--	--		*
STROPHANTHIDIN-DIGITALOSIDE	Plant	--	--		*

THYMINE	Plant	--	--	*
VERNADIGIN	Plant	--	--	*
VERNADIN	Root	--	--	*