

# List of All Chemicals

## **P** Acacia nilotica (Fabaceae)

### Common name(s)

Babul

### How used

GRAS

\*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 parts ...	Low PPM	High PPM	StdDev	*Reference
(+)-CATECHIN	Plant		--	--		*
<b>Activities (30)</b>						
ACE-Inhibitor IC50=0.155 mM/l						
ACE-Inhibitor 0.24 mg/ml rbt (weak activity)						
AntiHIV EC50=4 ug/ml						
Antiaggregant IC68=200 ug/ml						
Anticoagulant						
Anticomplementary 1/2 aspirin						
Antiinflammatory IC50=40-943 uM (cf indomethacin IC50=1 uM)						
Antimutagenic ID50=50-100 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. ACS Symposium Series 507.ACS, Washington 402 pp.
Antioxidant						
Antiperoxidant						Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiprostaglandin IC50=40-943 uM (cf indomethacin IC50=1 uM)						
Antiradicular						Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiulcer						
Beta-Adrenergic Receptor Blocker 10 uM (weak activity)						Zhu, M., Phillipson, J. D., Greengrass, P. M., Bowery, N. E., Cai, Y. 1997. Plant Polyphenols: Biologically Active Compounds or Non-Selective Binders to Protein? Phytochemistry, 44(3): 441-447.
COX-1-Inhibitor IC50=183-279 uM (cf indomethacin IC50=1 uM)						
COX-2-Inhibitor IC50=546-5,910 uM (cf indomethacin IC50=1 uM)						
Cancer-Preventive						Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardiotonic						
Cyclooxygenase-Inhibitor						
Cytotoxic TC50=>100 ug/ml						
Dermatitigenic						Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Hemostat						Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Hepatoprotective						Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Immunostimulant						Economic & Medicinal Plant Research, 1: 124.
NO-Inhibitor IC11=250 uM						
Neuroprotective 1-10 uM						
Phagocytotic						Economic & Medicinal Plant Research, 1: 124.
Vasoconstrictor						Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Xanthine-Oxidase-Inhibitor						Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livinston, Edinburgh.
cAMP-Phosphodiesterase-Inhibitor						
(+)-GALLOCATECHOL	Plant		--	--		*
(+)-LEUCOCYANIDIN	Plant		--	--		*
(+)-PYROCATECHOL	Plant		--	--		*
(-)-DICATECHIN	Plant		--	--		*
(-)-EPIGALLOCATECHIN	Plant		--	--		*

Activities (21)	
ACE-Inhibitor	
Aldose-Reductase-Inhibitor	
Antiacne	
Antiamoebic	Meckes, M., Calzada, F., Tapia-Contreras, A., Cedillo-Rivera, R. 1999. Antiprotozoal Properties of Helianthemum glomeratum. <i>Phytotherapy Research</i> , 13(2): 102-105.
Antibacterial	
Anticarcinogenic	
Anticaries	
Antigiardial	Meckes, M., Calzada, F., Tapia-Contreras, A., Cedillo-Rivera, R. 1999. Antiprotozoal Properties of Helianthemum glomeratum. <i>Phytotherapy Research</i> , 13(2): 102-105.
Antimutagenic	
Antioxidant IC50=1.4 ug/ml	
Antioxidant IC50=2.3 uM	
Antiradicular	
Antistreptococic	
Beta-Adrenergic Receptor Blocker 10 uM	Zhu, M., Phillipson, J. D., Greengrass, P. M., Bowery, N. E., Cai, Y. 1997. Plant Polyphenols: Biologically Active Compounds or Non-Selective Binders to Protein? <i>Phytochemistry</i> , 44(3): 441-447.
COMP-Inhibitor	Dullo, A. G., et al. 1999. Efficacy of a green tea extract rich in catechin polyphenols and caffeine in increasing 24-h energy expenditure and fat oxidation in humans. <i>Am. J. Clinical Nutrition</i> , 70: 1040-1045.
Lipoxygenase-Inhibitor IC50=21 uM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Neuroprotective 400 uM	
Peroxynitrite-Scavenger IC50=0.228 ug/ml	
Pesticide	
Protisticide	Meckes, M., Calzada, F., Tapia-Contreras, A., Cedillo-Rivera, R. 1999. Antiprotozoal Properties of Helianthemum glomeratum. <i>Phytotherapy Research</i> , 13(2): 102-105.
Xanthine-Oxidase-Inhibitor IC50=>40	Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. <i>Chem. Pharm. Bull.</i> 38(5): 1224-1229

(3)-LEUCOCYANIDIN-GALLATE	Plant	--	--	*
2-O-BETA-L-ARABINOFURANOSYL-L-ARABINOSE	Plant	--	--	*
3',4',5,7-TETRAHYDROXYFLAVAN-3-OL	Fruit	--	--	*
3',4',5,7-TETRAHYDROXYFLAVAN-3-OL(-)-EPICATECHOL	Fruit	--	--	*
3',4',7,8-TETRAHYDROXYFLAVONOID	Plant	--	--	*
3',4',7-TRIHYDROXYFLAVAN-3,4-DIOL	Fruit	--	--	*
3-O-BETA-L-ARABINOPYRANOSYL-L-ARABINOSE	Resin, Exudate, Sap	--	--	*
3-QUINOLYL-ACID	Plant	--	--	*
4',7,8-TRIHYDROXYFLAVONOID	Plant	--	--	*
4-ALDOBIOURONIC-ACID	Plant	--	--	*
6-HYDROXYQUINOLINE	Plant	--	--	*
7-COUMARINYL-ACID	Plant	--	--	*
7-HYDROXYQUINOLINE	Plant	--	--	*
8-HYDROXYQUINOLINE	Plant	--	--	*
ALDOBIONIC-ACID	Plant	--	--	*
ALDOBIOTRIOURONIC-ACID	Plant	--	--	*
ALPHA-SITOSTEROL	Plant	--	--	*
ALUMINUM	Plant	--	--	*

Activities (5)	
Antisilicotic	Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987.
Antivaginitic	Martindale's 28th
Candidicide	Martindale's 28th
Encephalopathic	Martindale's 29th
Pesticide	

AMYLASE	Plant	--	--	*
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**Activities (1)****Sedative**

ARABIC-ACID	Plant	--	--	*
ARABINOFURANOSYL-L-ARABINOSE	Resin, Exudate, Sap	--	--	*
ARABINOSE	Fruit	--	--	*
ASCORBIC-ACID	Plant	--	--	*

**Activities (112)**

Acidulant FEMA 6,000	Aloe Research Council - Duke writeup of non-peer reviewd 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				
Antiaggregant	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				
Antidecubitic 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).				

ASCORBIC-ACID-OXIDASE	Plant	--	--		*
ASH	Seed	40000.0	54000.0	0.18	*
BETA-AMYRIN	Root	--	--		*

Activities (9)					
Analgesic					
Antiedemic IC27=40 mg/kg ipr rat					
Antiinflammatory					
Antinociceptive					
Antiulcer					
Gastroprotective					
Hepatoprotective					
Larvicide					
Mosquitocide					

BETA-CAROTENE	Plant	--	--		*
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**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.

BETULIN

Root Bark

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Jim Duke's personal files.

**Activities (13)**

AntiHIV 6.1 uM

Anticarcinomic

Antifeedant

Antiflu

Antiinflammatory

Recio, M., et al. 1994. Investigations on the Steroidal Anti-Inflammatory Activity of Triterpenoids from *Diospyros leucomelas*\*. *Planta Medica*, 61: 9.

Antitumor

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

Antiviral 6.1 uM

Aphidifuge

Lugemwa, F.N., Huang, F.-Y., Bentley, M.D., Mendel, M.J., and Alford, A.R. 1990. A *Heliothis zea* Antifeedant from the Abundant Birchbark Triterpene Betulin. *J. Agric. Food Chem.* 38(2): 493-494.

Cytotoxic 600 ppm

Cytotoxic 8.6 uM

Hypolipemic

Prostaglandin-Synthesis-Inhibitor IC50=119 uM

Huang, C., Tunon, H., Bohlin, L. 1995. Anti-Inflammatory Compounds Isolated from *Menyanthes trifoliata* L. *Yao Hsueh Hsueh Pao*, 30(8): 621-626.

Topoisomerase-II-Inhibitor IC50=38.6 uM

**BETULIN**

Plant

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**Activities (13)**

AntiHIV 6.1 uM

Anticarcinomic

Antifeedant

Antiflu

Antiinflammatory

Recio, M., et al. 1994. Investigations on the Steroidal Anti-Inflammatory Activity of Triterpenoids from *Diospyros leucomelas*\*. *Planta Medica*, 61: 9.

Antitumor

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

Antiviral 6.1 uM

Aphidifuge

Lugemwa, F.N., Huang, F.-Y., Bentley, M.D., Mendel, M.J., and Alford, A.R. 1990. A *Heliothis zea* Antifeedant from the Abundant Birchbark Triterpene Betulin. *J. Agric. Food Chem.* 38(2): 493-494.

Cytotoxic 600 ppm

Cytotoxic 8.6 uM

Hypolipemic

Prostaglandin-Synthesis-Inhibitor IC50=119 uM

Huang, C., Tunon, H., Bohlin, L. 1995. Anti-Inflammatory Compounds Isolated from *Menyanthes trifoliata* L. *Yao Hsueh Hsueh Pao*, 30(8): 621-626.

Topoisomerase-II-Inhibitor IC50=38.6 uM

**CALCIUM**

Plant

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**Activities (28)**

AntiPMS 1 g/day

Antiallergic 500 mg/day

Antianxiety

Antiarrhythmic 500-1,500 mg

Antiarthritic 1,000 mg/day

Antiatherosclerotic 500 mg/day

Anticlimacteric 1,000-1,500 mg/day

Antidepressant

Antidote (Aluminum)

Antidote (Lead)

Antihyperkinetic

Antihypertensive

Antiinsomniac

Antimenopausal 1,000-1,500 mg/day

Antiobesity

Antiosteoporotic 500-2,000 mg/day

Antiperiodontitic 750 mg/day

Antirheumatic 1,000 mg/day

Antistress 500-1,500 mg/day

Antititic

Anxiolytic 500-1,500 mg/day

Calcium-Channel-Blocker

Diuretic

Hypocholesterolemic 500 mg/day

Hypotensive 1 g/day

Laxative 1,000-1,200 mg

Tranquilizer 500-1,500 mg/day

Vasodilator

Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.Werbach, M. 1993. *Healing with Food*. Harper Collins, New York, 443 pp.Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.Werbach, M. 1993. *Healing with Food*. Harper Collins, New York, 443 pp.Davies, S., and Stewart, A. 1990. *Nutritional Medicine*. Avon Books, New York. 509pp.Werbach, M. 1993. *Healing with Food*. Harper Collins, New York, 443 pp.Werbach, M. 1993. *Healing with Food*. Harper Collins, New York, 443 pp.**CARBOHYDRATES**

Plant

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**CELLULOSE**

Plant

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**Activities (1)**

Hemostat

Martindale's 29th

**CHLOROGENIC-ACID**

Plant

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**Activities (77)**Aldose-Reductase-Inhibitor  
IC50=1.8 uM rat (strong  
activity)Yoshikawa, M., et al. 1999. *Medicinal Flowers*. I. Aldose Reductase Inhibitors and Three New Eudesmane-Type Sesquiterpenes, Kikkanols A, B, and C, From the Flowers of *Chrysanthemum indicum* L. *Chem Pharm Bull*, 47(3): 340-345.

Allelochemic

Allergenic

Analgesic

AntiEBV

*Economic & Medicinal Plant Research*, 6: 189.

AntiHIV

*Economic & Medicinal Plant Research*, 6: 189.

AntiLegionella

Antiatherosclerotic

Antibacterial

Anticancer (Colon)

Anticancer (Forestomach)

Anticancer (Liver)

Anticancer (Skin)

Anticarcinogenic

Antidiabetic

Antifeedant

Antigenotoxic

Antigonadotropic

Jim Duke's personal files.

Antihemolytic 10 uM

Ohnishi, M., Morishita, H., Iwashita, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. *Phytochemistry*. 36(3): 579-583. 1994.

Antihepatotoxic

Antiherpetic

*Economic & Medicinal Plant Research*, 5: 194.

Antihistaminic

Antihypercholesterolemic

*Economic & Medicinal Plant Research*, 6: 189.

Antihyperthyroid



Antiinflammatory	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Antileukotriene	
Antimelanogenic	
Antimutagenic	
Antinitrosaminic	
Antioxidant IC53=200 ppm	Huang, M-T., and Ferraro, T. Phenolic Compounds in Food and Cancer Prevention. Phenolic Compounds in Food and Their Effects on Health, Ch.2 p.21.
Antioxidant IC80=12 uM	
Antioxidant IC50=54.2 uM	
Antiperoxidant IC50=36 uM	Planta Medica, 57: A54, 1991.
Antipolio	Jim Duke's personal files.
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. Phytochemistry. 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. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antitumor (Colon)	
Antitumor (Forestomach)	
Antitumor (Liver)	
Antitumor (Skin)	
Antitumor-Promoter IC25=10 uM	
Antiulcer	Economic & Medicinal Plant Research, 6: 189.
Antiviral	Vlietinck, A.J. and Dommissse, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Autotoxic	
CNS-Active	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
CNS-Stimulant 1/6 Caffeine	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. 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 (Ipomoea tricolor Cav. cv.) Heavenly Blue Seeds. J. Agric. Food Chem. 38: 805-808.
Collagen-Sparing	
Diuretic	
Fungicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. 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 Achillea millefolium L. (Asteraceae). Economic Botany 48(2): 111-120, 1994.
Interferonogenic	Economic & Medicinal Plant Research, 1: 124.
Juvabional	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvostat	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. 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. J. Agric. Food Chem. 38: 688-690.
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. Phenolic Compounds in Food and Their Effects on Health, Ch.25.
NO-Genic	
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Oviposition-Stimulant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Pesticide	
Sunscreen	
Sweetener	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Vulnerary	

D-CATECHOL	Plant	--	--	*
D-GALACTOSE	Plant	--	--	*
D-GLUCURONIC-ACID	Plant	--	--	*

DIASTASE	Plant	--	--	*
DICATECHIN	Plant	--	--	*
DICATECHOL	Plant	--	--	*
DIGITONIN	Plant	--	--	*
<b>Activities (4)</b>				
Anticarcinomic				
Antiseptic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Fungistat	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Pesticide				
ELLAGIC-ACID	Bark	--	--	*

**Activities (51)**

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

EPICATECHOL	Plant	--	--	*
EPICATECHOL-GALLATE	Plant	--	--	*
EPIGALLOCATECHIN	Plant	--	--	*

Activities (6)					
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.				
Antioxidant IC50=1.4 ug/ml	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					
Beta-Adrenergic Receptor Blocker 10 uM	Zhu, M., Phillipson, J. D., Greengrass, P. M., Bowery, N. E., Cai, Y. 1997. Plant Polyphenols: Biologically Active Compounds or Non-Selective Binders to Protein? Phytochemistry, 44(3): 441-447.				
Lipoxygenase-Inhibitor IC50=21 uM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.				
Xanthine-Oxidase-Inhibitor IC50=>40	Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. Chem. Pharm. Bull. 38(5): 1224-1229				

FAT	Seed	35000.0	115000.0	-0.79	*
FIBER	Seed	25000.0	166000.0	0.25	*

Activities (15)					
Angiotensin-Receptor-Blocker					
Antidiabetic					
Antihypertensive					
Antiobesity					
Antitumor	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).				
Antiulcer	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).				
Beta-Blocker					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Cardioprotective					
Diuretic					
Hypocholesterolemic					
Hypotensive 10 g/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).				
Hypouricemic					
Laxative					
Vasodilator					

FRUCTOSE	Plant	--	--		*
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Activities (8)					
Antialcoholic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Antidiabetic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Antihangover					
Antiketotic	Merck 11th Edition				
Antinauseant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Laxative					
Neoplastic	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses				
Sweetener 2 x glucose	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				

GALACTURONIC-ACID	Plant	--	--		*
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GALLIC-ACID	Resin, Exudate, Sap	--	--		*
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Activities (62)					
ACE-Inhibitor IC50=7.7 mM/l					
Analgesic					
AntiHIV					
AntiMRSA					
Antiadenovirus	Economic & Medicinal Plant Research, 5: 194.				
Antiallergenic	Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.				
Antianaphylactic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Antiangiogenic					
Antiasthmatic	Watt, J.M., and Breyer-Brandwijk, M.G. The Medicinal and Poisonous Plants of Southern and Eastern Africa. 1962.				
Antibacterial MIC=1,000 ug/ml					
Antibronchitic	Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.				
Anticancer					
Anticarcinomic ED50=3					
Antiescherichic					

Antifibrinolytic	Economic & Medicinal Plant Research, 1: 53.
Antiflu	Economic & Medicinal Plant Research, 5: 194.
Antihepatotoxic	Okuda, T., Yoshida, T., and Hatano, T. Antioxidant Effects of Tannins and Related Polyphenols. Phenolic Compounds in Food and Their Effects on Health, Ch.7 p.93.
Antitherpetic EC50=>10 ug/ml	
Antiinflammatory	Kroes, B.H., et al. 1991. Anti-Inflammatory Activity of Gallic Acid. <i>Planta Medica</i> , 58(6): 499.
Antileishmanic EC50=4.4 ug/ml	
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antinitrosaminic	
Antioxidant IC44=33 ppm	
Antioxidant 7 x quercetin	
Antioxidant 2/3 BHA	
Antiperiodontitic 10 ug/ml	
Antiperoxidant IC50=69 uM	
Antipolio	Economic & Medicinal Plant Research, 5: 194.
Antiproteolytic 10 ug/ml	
Antiradicular 7 x quercetin	
Antiradicular IC50=4.9 uM	
Antiseptic	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.
Antistaphylococcic MIC=1,000 ug/ml	
Antitumor	
Antitumor-Promoter	
Antiviral	
Apoptotic	
Astringent	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.
Bacteristat	Lamikanra, A., Ogundaini, A.O., and Ogungbamila*, F.O. Antibacterial Constituents of <i>Alchornea cordifolia</i> Leaves. <i>Phytotherapy Research</i> 4(5): 198.
Bronchodilator	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Carcinogenic	
Choleretic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Cyclooxygenase-Inhibitor	
Cytotoxic 500 uM	
Floral-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Gram(+)icide MIC=1,000 ug/ml	
Gram(-)icide MIC=1,000 ug/ml	
Hemostat	
Hepatoprotective	Neuwinger, H. D. 1996. <i>African Ethnobotany - Poisons and Drugs</i> . Chapman & Hall, New York. 941 pp.
Immunomodulator	
Immunostimulant	McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. <i>Alternative Therapies</i> , 6(3): 61-82.
Immunosuppressant	
Insulin-Sparing	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Myorelaxant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
NO-Inhibitor IC-26=250 uM	
Nephrotoxic	Martindale's 29th
Pesticide	
Styptic	
Topoisomerase-I-Inhibitor	Hamada, S. I., Kataoka, T., Woo, J. T., Yamada, A., Yoshida, T., Nishimura, T., Otake, N., Nagai, K. 1997. Immunosuppressive Effects by Gallic Acid and Chebulagic Acid on CTL-Mediated Cytotoxicity. <i>Biol Pharm Bull</i> , 20: 1017-1019.
Xanthine-Oxidase-Inhibitor IC50=24 uM	Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. <i>Chem. Pharm. Bull.</i> 38(5): 1224-1229

GLUCOSE

Fruit

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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.			

HYDROQUINONE Plant -- -- \*

Activities (32)				
Allelochemic IC100=2.7 mM	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.			
Allergenic	Merck 11th Edition			
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Antihepatotoxic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.			
Antilithic				
Antimalarial				
Antimelanomic				
Antimelasmic	Martindale's 29th			
Antimenorrhagic				
Antimitotic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Antinephritic				
Antioxidant	Jim Duke's personal files.			
Antipertussive				
Antiseptic				
Antithyretropic				
Antitrypanosomic				
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Astringent				
Carcinogenic				
Co-carcinogenic				
Convulsant 1 g orl	Lawrence Review of Natural Products, Sep-87.			
Cytotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Deliriant 1,000 mg/man	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.			
Depigmentor	Merck 11th Edition			
Emetic 1 g orl	Lawrence Review of Natural Products, Sep-87.			
FLavor FEMA 5-50	Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry			
Herbicide IC41=50 ug/ml	Hanke, F. J., Natural Products as a Resource for Biologically Active Compounds, Thesis, U. Cal (Santa Cruz), 1986, 252 pp			
Hypertensive	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Irritant	Martindale's 28th			
Mycoplasmatistat	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livingstone, Edinburgh.			
Pesticide				
Tinnitogenic 1,000 mg/man	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.			

INDOLE-ACETIC-ACID Plant -- -- \*

Activities (1)				
Hormone	Merck 11th Edition			

ISOQUERCITRIN Plant -- -- \*

**Activities (22)**

ACE-Inhibitor ID50=300 ug/ml rat (24 hr.)

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

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

Anticancer

Antielastase IC50=0.7 ug/ml

Antifeedant Russell, G. B., Phytochemical resources for crop protection, N. Z. J. Technol., 2, 1986, 127-134.

Antiinflammatory

Antinociceptive

Antioxidant 1/4 quercetin

Antioxidant IC50=9.0 uM

Antiradicular 1/4 quercetin

Antitumor

Antitumor-Promoter

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

Capillarigenic

Diaphoretic

Diuretic 10 ppm List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Hypotensive 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.

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

Pesticide

TNF-alpha-Inhibitor

Topoisomerase-II-Inhibitor 550 ug/ml Bernard, F. X., Sable, S., Cameron, B., Provost, J., Desnottes, J. F., Crouzet, J., Blanche, F. 1997. Glycosylated Flavones as Selective Inhibitors of Topoisomerase IV. Antimicrobial Agents &amp; Chemotherapy, 41: 992-998.

ISORHAMNETIN-3-RUTINOSIDE

Plant

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**Activities (2)**

Antibacterial (Synergist) Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Pesticide

KAEMPFEROL-3-0-GLUCOSIDE

Plant

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KAURENIC-ACID

Plant

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**Activities (3)**

Antibacterial

Mycobactericide 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, Phytotherapy Research, 3(4), 1989, 117-125.

Pesticide

L-ARABINOSE

Plant

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LACTONE

Plant

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LIGNIN

Plant

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**Activities (13)**

AntiHIV

Antibacterial

Anticancer

Anticoronary

Antidiarrheic

Martindale's 29th

Antinitrosaminic

Antioxidant

Antitumor

Antiviral

Chelator

Hypocholesterolemic

Laxative

Pesticide

LINOELIC-ACID

Plant

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LYSOLECITHIN	Plant	--	--	*
<b>Activities (1)</b>				
Immunostimulant 0.01-1 ug/ml				
M-AMINOPHENYL-GLYCOSIDE	Plant	--	--	*
M-DIGALLIC-ACID	Bark	--	--	*
MAGNESIUM	Plant	--	--	*
<b>Activities (65)</b>				
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. Syndrome 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.			
Antidometriotic 500 mg/day				
Antienterotic				
Antiepileptic 450 mg/day				
Antifatigue				
Antifibromyalgic 200-300 mg 3x/day				
Antigastric				
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				
Antiplateque 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
Antisynndrome-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	

MALIC-ACID Plant -- -- \*

Activities (15)	
Antiatherosclerotic	
Antibacterial	
Antifibromyalgic 300 mg 3x/day	
Antioxidant Synergist	Merck 11th Edition
Antiseborrheic	
Antiseptic	Martindale's 29th
Antitubercular	
Antitumor	Economic & Medicinal Plant Research, 6: 235.
Bacteristat	
Bruchiphobe	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Hemopoietic	
Laxative?	Lawrence Review of Natural Products, Sep-91.
Mycobactericide	
Pesticide	
Sialogogue	Martindale's 29th

MALTASE Plant -- -- \*

MANGANESE Plant -- -- \*

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	
Antisynndrome-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	

MONOBUTYRINASE Plant -- -- \*

MUCILAGE Plant -- -- \*

<b>Activities (3)</b>					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Demulcent					
Hypocholesterolemic					
MYRECETIN-4'-METHYLETHER-3-RHAMNOSIDE	Plant	--	--		*
OCTACOSANOL	Root	--	--		*
<b>Activities (6)</b>					
Androgenic					
Antiparkinsonian 1-15 mg day					
Antiviral	Abid Ali Khan, M.M., Jain, D.C., Bhakuni, R.S., Zaim, M., and Thakur, R.S. 1991. Occurrence of some antiviral sterols in <i>Artemisia annua</i> . <i>Plant Science</i> , 75: 161-165, 1991.				
Hypocholesterolemic	Pedersen, M. 1987. <i>Nutritional Herbiology</i> . Pederson Publishing. Bountiful, Utah. 377 pp.				
Hypolipidemic					
Stimulant 2.2 mg/kg orl gpg					
OLEIC-ACID	Plant	--	--		*
<b>Activities (18)</b>					
5-Alpha-Reductase-Inhibitor					
Allergenic					
Alpha-Reductase-Inhibitor					
Anemiagenic					
Antialopecic					
Antiandrogenic					
Antiinflammatory IC50=21 uM					
Antileukotriene-D4 IC50=21 uM					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Choleretic 5 ml/man					
Dermatitigenic					
FLavor FEMA 1-30	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Hypocholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. <i>CRC Handbook of Lipids in Human Nutrition</i> . CRC Press. Boca Raton, FL. 233 pp.)				
Insectifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.				
Irritant	Merck 11th Edition				
Percutaneostimulant	Seki, T., Toeda, C., Kawaguchi, T., Juni, K., Sugibayashi, K., and Morimoto, Y. 1990. Enhanced Transdermal Delivery of Zidovudine in Rats and Human Skin. <i>Chem. Pharm. Bull.</i> 38(11): 3086-3089, 1990.				
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Propecic					
OXALIC-ACID	Plant	--	--		*
<b>Activities (9)</b>					
Acaricide					
Antiseptic					
CNS-Paralytic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Fatal	Martindale's 29th				
Hemostatic	Merck 11th Edition				
Irritant					
Pesticide					
Renotoxic	Merck 11th Edition				
Varroacide					
OXIDASE	Plant	--	--		*
PEROXIDASE	Plant	--	--		*
PHLOBAPHENE	Plant	--	--		*
PHLOBATANNIN	Plant	--	--		*
PHLOROGLUCINOL	Plant	--	--		*

Activities (8)					
Antiseptic					
Antispasmodic 480 mg/day/orl man	Martindale's 29th				
Antitumor-Promoter					
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Decalcifier	Merck 11th Edition				
Fungicide					
Goitrogenic					
Pesticide					
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POLYPHENOL-OXIDASE	Plant	--	--		*
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POTASSIUM	Plant	--	--		*
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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					
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PROTEIN	Seed	136000.0	452000.0	1.94	*
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PROTOCATECHUIC-ACID	Fruit	--	--		*
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**Activities (43)**

Allergenic	
Alpha-Glucosidase-Inhibitor	
AntiLegionella	
Antiarrhythmic	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 407.
Antiasthmatic	
Antibacterial	Lamikanra, A., Ogundaini, A.O., and Ogungbamila*, F.O. Antibacterial Constituents of Alchornea cordifolia Leaves. Phytotherapy Research 4(5): 198.
Anticlastogen	
Antihepatotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiherpetic	
Antiinflammatory	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiscleremic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antileukemic	
Antimelanogenic ID60=0.5 uM/ml	
Antimutagenic	
Antiophidic	Economic & Medicinal Plant Research, 5: 363.
Antioxidant 2/3 quercetin	
Antioxidant 10 x alpha-tocopherol	
Antioxidant 1/2 BHT	
Antiperoxidant IC50=>100 uM	Planta Medica, 57: A54, 1991.
Antiperoxidant IC75=200 ug/ml	
Antiradicular	
Antiseptic	
Antispasmodic EC50=4.6-17 uM	Ortiz de Urbina, J.J., Martin, M.L., Sevilla, M.A., Montero, M.J., Carron, R., and San Roman, L. Antispasmodic Activity on Rat Smooth Muscle of Polyphenol Compounds Caffeic and Protocatechic Acids. Phytotherapy Research 4(2): 73, 1990.
Antitumor (Colon)	
Antitumor (Mouth)	
Antitumor (Skin)	
Antitussive	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 200.
Antiviral	
Apoptotic	
Carcinogenic	
Cardioprotective	
Chemopreventive 100 ppm orl rat	
Fungicide 500 ug/ml	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.
Glutathione-Depleting	
Hepatotoxic	
Immunostimulant	Economic & Medicinal Plant Research, 1: 124.
Nephrotoxic	
Pesticide	
Phagocytotic	Economic & Medicinal Plant Research, 1: 124.
Prostaglandigenic	
Secretagogue	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Tyrosinase-Inhibitor ID60=0.5 uM/ml	
Ubiquitot	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

PYROGALLOL

Plant

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**Activities (23)**

## Abortifacient

Allelochemic IC50=6.53 mM 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.

## Antibacterial

## Anticlastogen

Antidermatitic Martindale's 29th

## Antilupus

## Antimutagenic

Antioxidant Jim Duke's personal files.

Antipsoriac Merck 11th Edition

Antiseptic Martindale's 29th

## CNS-Active

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

Cardiovascular 25 mg/kg ivn dog Borchard, R. E., Barnes, C. D., and Eltherton, L. G. 1991. Drug Dosage in Laboratory Animals: A Handbook. (3rd Ed.) The Telford Press, Inc., P. O. Box 287, Caldwell NJ 07006.

Dye Merck 11th Edition

## Ecboic

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

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

Irritant Merck 11th Edition

Nephrotoxic Martindale's 29th

Nigrifacient Martindale's 29th

## Pesticide

Prostaglandin-Synthesis-Inhibitor IC50=900 uM Alanko, J., et al. 1999. Modulation of Arachidonic Acid Metabolism by Phenols: Relation to their Structure and Antioxidant/Prooxidant Properties. Free Radical Biol Med, 26(1/2): 193-201.

Toxic Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

**QUERCETIN**

Plant

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**Activities (176)**

## 11B-HSD-Inhibitor

5-Lipoxygenase-Inhibitor  
IC50 (uM)=4

ATPase-Inhibitor Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.

Aldehyde-Oxidase-  
Inhibitor IC70-96=10 uMAldose-Reductase-  
Inhibitor 100 uM

Aldose-Reductase-Inhibitor 4 ug/ml Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. Sankyo Kenkyusho Nempo, 43: 99-110.

Aldose-Reductase-Inhibitor IC50=0.84 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. Chem Pharm Bull 43(8):1385-1387

Aldose-Reductase-Inhibitor IC50=0.344 uM Mao, X. M., Zhang, J. Q. 1993. Inhibition of Aldose Reductase by Extracts of Chinese Herbal Medicine. Zhongguo Zhongyao Zazhi, 18(10): 623-624.

Allelochemic IC82=1 mM 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.

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

## Analgesic

AntiCrohn's 400 mg/man/3x/day Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).

## AntiGTF ID50=120 ug/ml

## AntiHIV

AntiPMS 500 mg/2x/day/wmn Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).

## Antiaflatoxin IC50=25 uM

## Antiaflatoxin IC50=7.5 ppm

Antiaggregant IC50=55 uM Economic & Medicinal Plant Research, 5: 333.

## Antiaggregant 30 uM

## Antiaging

Antiallergic IC50=14 uM Jim Duke's personal files.

## Antialzheimeran

Antianaphylactic Meli, R., Autore, G., Di Carlo, G., Capasso, F. Inhibitory Action of Quercetin on Intestinal Transit in Mice. Phytotherapy Research 4(5): 201, 1990.

## Antiangiogenic

## Antiarthritic

## Antiasthmatic IC50=14 uM

## Antiatherosclerotic

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.
Anticarcinomic (Breast) IC50=1.5 uM	Medline (post 1990 searches filed in my computer)
Anticariogenic ID50=120 ug/ml	
Anticataract	
Anticolitic 400 mg/man/3x/day	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Anticomplementary	
Anticystitic 1,000 mg/day/4 weeks	
Antidepressant	
Antidermatitic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antidiabetic	
Antielastase IC50=0.8 ug/ml	
Antiencephalitic	Economic & Medicinal Plant Research, 5: 199.
Antiescherichic	
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, <i>Herbs, Spices &amp; Medicinal Plants: Recent Advances in Botany, Horticulture, &amp; Pharmacology</i> , v. 4, Oryx Press, Phoenix, 1989, 267pp.
Antifibrosarcomic	
Antiflu	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. <i>Advances in Medicinal Plant Research.</i> Wiss. Verlag. Stuttgart.
Antigastric	Rastitel'nye Resursy, 21: 85.
Antigonadotropic	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	Joyeux, M., Rolland, A., Fleurentin, J., Mortier, F., and Dorfman, P. 1989. <i>Tert-Butyl Hydroperoxide-Induced Injury in Isolated Rat Hepatocytes: A Model for Studying Anti-Hepatotoxic Crude Drugs.</i> <i>Planta Medica</i> 56(2): 171-173, 1990.
Antiherpetic 48-150 ug/ml	
Antihistaminic IC50=<10 uM	
Antihydrophobic	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. <i>Advances in Medicinal Plant Research.</i> Wiss. Verlag. Stuttgart.
Antihypertensive	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs.</i> CRC Press, Boca Raton, FL 388 pp.
Antiinflammatory 20-150 mg/kg	Fitoterapia No.5-1990.
Antileishmanic IC50=64	
Antileukemic IC50=10 uM	Economic & Medicinal Plant Research, 5: 225.
Antileukemic IC50=>10 ug/ml	Life Sciences 55: 1061.
Antileukemic 5.5-60 uM	
Antileukotriene	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antilipoperoxidant IC67=50	
Antimalarial IC50=1-6.4 ug/ml	Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987.
Antimelanomic	
Antimetastatic	
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. ACS Symposium Series 507.ACS, Washington 402 pp.
Antimutagenic ID50=0.62 ug/ml	
Antimyocarditic	Economic & Medicinal Plant Research, 5: 199.
Antinitrosaminic	
Antinociceptive	
Antioxidant IC96=300 ppm	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Antioxidant ED50=2.3 uM	Seidel, V., Verholle, M., Malard, Y., Tilleguin, F., Fruchart, J-C., Duriez, P., Bailleul, F., Teissier, E. 2000. Phenylpropanoids from <i>Ballota nigra</i> L. Inhibit in vitro LDL Peroxidation. <i>Phytotherapy Research</i> , 14(2): 93-98.
Antioxidant 4.7 x Vit. E	
Antioxidant IC47=10 uM	
Antipancreatic	Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code.</i> Hyperion, NY.
Antiperiodontal	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiperistaltic	
Antipermeability	
Antiperoxidant	<i>Planta Medica</i> , 57: A110, 1991.
Antipharyngitic	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiplaque	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiplasmodial IC50=13-64	
Antipodriac	
Antipolio	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiproliferant 10 nM	
Antiprostanoid	
Antiprostatic	Joseph, J., Nadeau, D. and Underwood, A. 2001. <i>The Color Code.</i> Hyperion, NY.

Antipsoriac	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiradicular IC50=4.6 uM	Planta Medica, 56(6): 695, 1990.
Antispasmodic	
Antistreptococcic ID50=120 ug/ml	
Antithiamin	Phenolic Compounds in Food and Their Effects on Health, 69.
Antithrombic	
Antitrypanosomic IC50=13	
Antitumor 10 uM	
Antitumor (Bladder)	
Antitumor (Breast)	
Antitumor (Colon)	
Antitumor (Lung)	
Antitumor (Ovary)	
Antitumor (Skin) 20 uM	
Antitumor-Promoter	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiulcer	
Antiviral IC50=10 uM	Economic & Medicinal Plant Research, 5: 225.
Antiviral 48-150 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.
Apoptotic 20-60 uM	
Bacteristat 10 mg/ml	
Bradycardiac	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
COMT-Inhibitor	
COX-2-Inhibitor <40 uM	
Calmodulin-Antagonist	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.
Candidicide	
Capillariprotective	Merck 11th Edition
Carcinogenic 40,000 ppm (diet) mus	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Catabolic	
Copper-Chelator	
Cyclooxygenase-Inhibitor	
Cytochrome-P450-1A2-Inhibitor	
Cytotoxic ED50=70 ug/ml	Matsukawa, Y., et al. The Effect of Quercetin and Other Flavonoids on Cell Cycle Progression and Growth of Human Gastric Cancer Cells. Planta Medica, 56(6): 677, 1990.
Cytotoxic IC82=100 ug/ml	Planta Medica, 57: A113, 1991.
Deiodinase-Inhibitor	Jim Duke's personal files.
Diaphoretic?	Lawrence Review of Natural Products, Dec-90.
Differentiator 5.5 uM	
Estrogenic 10% genistein	
Fungicide	
Glucosyl-Transferase-Inhibitor ID50=120 ug/ml	
HIV-RT-Inhibitor IC50=<1 ug/ml	Nakane, H., Fukushima, M., and Ono*, K. Differential Inhibition Of Reverse Transcriptase And Various DNA Polymerases By Digallic Acid And Its Derivatives. Journal of Natural Products, 53(5): 1234-1240, 1990.
Hemostat	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Hepatomagenic 5,000 ppm (diet) rat	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Hepatoprotective	
Hypoglycemic 100 mg/kg orl rat	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.
Inotropic	
Insulinogenic	Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).
Juvabional	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.
Larvistat 8,000 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.
Lipoxygenase-Inhibitor IC11=1.25 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Lipoxygenase-Inhibitor IC50=0.1-5 uM	
MAO-A-Inhibitor	
MMP-9-Inhibitor 20 uM	
Mast-Cell-Stabilizer	
Metal-Chelator (Copper)	Seidel, V., Verholle, M., Malard, Y., Tillequin, F., Fruchart, J-C., Duriez, P., Bailleul, F., Teissier, E. 2000. Phenylpropanoids from Ballota nigra L. Inhibit in vitro LDL Peroxidation. Phytotherapy Research, 14(2): 93-98.
Metalloproteinase-Inhibitor IC50=>42 uM	
Mutagenic	

NADH-Oxidase-Inhibitor

NEP-Inhibitor IC50=>42 uM

NF-kB-Inhibitor

NO-Inhibitor IC>50=125 uM

NO-Inhibitor IC50=20 uM

NO-Synthase-Inhibitor 5-50 uM

Neuroprotective 5-25 uM

Ornithine-Decarboxylase-Inhibitor <10 uM

P450-Inducer 5 uM Father Nature's Pharmacy: The aggregate of all these three-letter citations.

P450-Inhibitor 50-100 uM Father Nature's Pharmacy: The aggregate of all these three-letter citations.

PGE2-Inhibitor

PTK-Inhibitor 0.4-24 uM

Pesticide

Phospholipase-Inhibitor

Plasmodicide Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.

Proliferant

Prostaglandin-Synthesis-Inhibitor 40 ug/ml Ibewuike, J. C., Ogungbamila, F. O., Ogundaini, A. O., Okeke, I. N., Bohlin, L. 1997. Antiinflammatory and Antibacterial Activities of C-methylflavonol from *Piliostigma thonningii*. *Phytotherapy Research*, 11(4): 281-284.

Protein-Kinase-C-Inhibitor Naim, M., Zehavi, U., Nagy, S., and Rouseff, R.L. Hydroxycinnamic Acids as Off-Flavor Precursors in Citrus Fruits and Their Products. *Phenolic Compounds in Food and Their Effects on Health*, Ch.14.

Quinone-Reductase-Inducer 6 uM Uda, Y., Price, K. R., Williamson, G., Rhodes, M. J. C. 1997. Induction of the Anticarcinogenic Marker Enzyme, Quinone Reductase, in Murine Hepatoma Cells In Vitro by Flavonoids. *Cancer Lett.*, 120 (2): 213-216.

Quinone-Reductase-Inducer 13 uM

TNF-alpha-Inhibitor IC50=3.11 uM

Teratologic

Topoisomerase-I-Inhibitor IC50=12.8 ug/ml

Topoisomerase-I-Inhibitor IC50=42 uM

Topoisomerase-II-Inhibitor IC50=1-6.9 ug/ml

Topoisomerase-II-Inhibitor IC50=23-40 uM

Tumorigenic 0.1% diet orl rat/yr Jim Duke's personal files.

Tyrosinase-Inhibitor ID50=70 uM

Tyrosine-Kinase-Inhibitor Economic & Medicinal Plant Research, 6: 170.

VEGF-Inhibitor

Vasodilator

Xanthine-Oxidase-Inhibitor IC50=>0.4 ug/ml Chem. & Pharm. Bull. 38: 1772.

Xanthine-Oxidase-Inhibitor IC50=10.6 ug/ml

Xanthine-Oxidase-Inhibitor 3.1 uM

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

iNOS-Inhibitor IC50=20 uM

QUERCETIN-3-O-RUTINOSIDE	Plant	--	--	*
QUERCITRIN	Plant	--	--	*



**Activities (44)**ACE-Inhibitor  
IC50=0.67 mM/Aldose-Reductase-  
Inhibitor IC50=2 uMTerashima, S., Shimizu, M., Nakayama, H., Ishikura, M., et al. 1990. Studies on Aldose Reductase Inhibitors from Medicinal Plant of 'Sinfito,' *Potentilla candicans*, and Further Synthesis of Their Related Compounds. *Chem. Pharm. Bull* 38(10):2733-2736, 1990Aldose-Reductase-  
Inhibitor IC55=0.15 uMAldose-Reductase-  
Inhibitor 0.1-100 uMAldose-Reductase-  
Inhibitor 0.5-4 ug/mlAldose-Reductase-  
Inhibitor IC50=64 uM  
ratAl-Khalil, S. 1996. Inhibition of Lens Alkaloids Reductase by Protopine Alkaloids. *Saudi Pharm J*, 4(1): 45-47.Aldose-Reductase-  
Inhibitor IC55=0.1 uM

Antiarrhythmic

Antibacterial

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

Anticataract

Antidemic

Huang, K. C. 1993. *The Pharmacology of Chinese Herbs.* CRC Press, Boca Raton, FL 388 pp.Antifeedant IC52=  
<1,000 ppm dietLydon, 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.

Antiflu

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

Antihemorrhagic

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

Antihepatotoxic

Antiherpetic

Economic &amp; Medicinal Plant Research, 5: 198.

Antiinflammatory

Huang, K. C. 1993. *The Pharmacology of Chinese Herbs.* CRC Press, Boca Raton, FL 388 pp.Antimutagenic  
ID50=2-5 nMPhenolic Compounds in Food and Their Effects on Health. *Antioxidants & Cancer Prevention.* Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507. ACS, Washington 402 pp.Antioxidant IC50=120  
uM

Antipurpuric

Antispasmodic

Antistaphylococcic  
0.41%

Antithrombogenic

Antitumor

Antiulcer

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

Antiviral

CNS-Depressant

Cancer-Preventive

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

Cardiotonic

Choleretic

Leung, A. Y. and Foster, S. 1995. *Encyclopedia of Common Natural Ingredients 2nd Ed.* John Wiley & Sons, New York. 649 pp.Cyclooxygenase-  
Activator 200 uMHansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. *Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D)*, 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.

Detoxicant

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

Diuretic

Huang, K. C. 1993. *The Pharmacology of Chinese Herbs.* CRC Press, Boca Raton, FL 388 pp.

Dye

Merck 11th Edition

Hemostat

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

Hepatotonic

Hypoglycemic

Economic &amp; Medicinal Plant Research, 6: 189.

Hypotensive

Insectiphile

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

MAO-A-Inhibitor

MAO-Inhibitor

Paralytic

Pesticide

Vasopressor

RAFFINOSE

Seed

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**Activities (1)**Flatugenic Singh, J., Gupta, K., and Arora, S.K. 1993. Changes in the anti-nutritional factors of developing seeds and pod walls of fenugreek (*Trigonella foenum graecum* L.). *Plant Foods for Human Nutrition.* 46: 77-84, 1994.

RHAMNOSE

Fruit

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RIBOFLAVIN

Plant

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Activities (15)					
AntiLyme 50 mg/day					
Antiarabiflavinotic 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.			

ROBIDANDIOL	Plant	--	--		*
ROSIN	Plant	--	--		*
SAPONIN	Plant	--	--		*
SILICON	Plant	--	--		*

Activities (4)					
Antiartherosclerotic		Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.			
Antionychotic					
Antiosteoporotic					
Cardioprotective					

SODIUM	Plant	--	--		*
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Activities (1)					
Hypertensive		Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.			

SUCROSE	Seed	--	--		*
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Activities (14)					
Aggregant		Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).			
Antihiccup 1 tsp		Martindale's 29th			
Antiophthalmic		Martindale's 29th			
Antioxidant		Merck 11th Edition			
Atherogenic		Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).			
Collyrium		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Demulcent		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Flatugenic		Singh, J., Gupta, K., and Arora, S.K. 1993. Changes in the anti-nutritional factors of developing seeds and pod walls of fenugreek ( <i>Trigonella foenum graecum</i> L.). Plant Foods for Human Nutrition. 46: 77-84, 1994.			
Hypercholesterolemic		Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).			
Preservative		Merck 11th Edition			
Sweetener 1 x sucrose		Merck 11th Edition			
Triglycerigenic		Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).			
Uricogenic		Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf).			
Vulnerary		Martindale's 29th			

TANNASE	Plant	--	--		*
TANNIN	Wood	--	63500.0	0.4	*



**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 IC50=1.44 ug/ml	
Antioxidant 1/3 quercetin	
Antiradicular 500 mg/kg/day orl mus	Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990.
Antiradicular 1/3 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- Inhibitor	
Glucosyl- Transferase-Inhibitor	
Hepatoprotective	
Immunosuppressant	
Lipoxygenase- Inhibitor	
MAO-Inhibitor	
Ornithine- Decarboxylase- 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- Inhibitor	

TANNIN	Resin, Exudate, Sap	170000.0	200000.0	-0.66	*
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**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 IC50=1.44 ug/ml	
Antioxidant 1/3 quercetin	
Antiradicular 500 mg/kg/day orl mus	Uchida, U., Ohta, H., Niwa, M., Mori, A., Nonaka, G-i., Nishioka, I., and Zaki, M. 1989. Prolongation of Life Span of Stroke-Prone Spontaneously Hypertensive Rats (SHRSP) Ingesting Persimmon Tannin. Chem. Pharm. Bull. 38(4): 1049-1052, 1990.
Antiradicular 1/3 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- Inhibitor	
Glucosyl- Transférase-Inhibitor	
Hepatoprotective	
Immunosuppressant	
Lipoxygenase- Inhibitor	
MAO-Inhibitor	
Ornithine- Decarboxylase- 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- Inhibitor	

THIAMIN Plant -- -- \*

**Activities (31)**

Analgesic 1-4 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
AntiLyme 50 mg	
Antialcoholic 50-100 mg/day	
Antialzheimeran 100-3,000 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antianorectic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antibackache 1-4 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antiberiberi	
Anticanker	
Anticardiospasmic	
Anticataract	
Anticolitic	
Antidecubitic	
Antideliriant	
Antidementia	
Antidyspeptic	
Antiencephalopathic	Martindale's 29th
Antifatigue	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antigastritic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antihangover 50 mg	
Antiheartburn	
Antiherpetic	
Antimigraine	
Antimyocarditic	
Antineuralgic 1-4 g/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antineurasthenic	
Antineuritic	
Antineuropathic 50 mg	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antipoliomyelitic	
Insectifuge 75-150 mg/man/day	Martindale's 28th
Neuroprotective	
Pesticide	

URONIC-ACID	Plant	--	--	*
XANTHURENIC-ACID	Plant	--	--	*
XYLOSE	Fruit	--	--	*

**Activities (3)**

Antidiabetic	
Diagnostic	Martindale's 28th
Dye	Merck 11th Edition