

List of All Chemicals

P Uncaria tomentosa (Pedaliaceae)

Common name(s)

Una de Gato; Cat's Claw; Garabato Amarillo

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	Low PPM	High PPM	StdDev	*Reference
	All				
(-)-EPICATECHIN	Bark	--	25.0	1.0	*

Activities (38)

5-Lipoxygenase-Inhibitor IC50=22-50 uM/l	
ACE-Inhibitor IC50=0.216 mM/l	
ACE-Inhibitor 0.5 mg/ml rbt (weak activity)	
Allelochemic	Hanke, F. J., Natural Products as a Resource for Biologically Active Compounds, Thesis, U. Cal (Santa Cruz), 1986, 252 pp
AntiEBV	Economic & Medicinal Plant Research, 6: 189.
AntiHIV EC50=2 ug/ml	
Antiaggregant	
Antianaphylactic	
Antibacterial	
Antidiabetic 30 mg/kg rat	
Antihepatitic	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antihyperglycemic	
Antiinflammatory	
Antileukemic	Economic & Medicinal Plant Research, 6: 189.
Antileukotriene	
Antilipoperoxidant	
Antimutagenic	
Antioxidant IC50=6.3 ug/ml	
Antiperoxidant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiviral EC50=2 ug/ml	
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.
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. Am. J. Clinical Nutrition, 70: 1040-1045.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardiotonic	
Choline-Sparing	
Cytotoxic TC50=>100 ug/ml	
Hypocholesterolemic	
Hypoglycemic	
Immunostimulant	
Insulinogenic	Economic & Medicinal Plant Research, 6: 170.
Lipoxygenase-1-Inhibitor IC50=60 mM	
Lipoxygenase-Inhibitor IC50=140 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.
Lipoxygenase-Inhibitor IC97=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.
Pancreatogenic	
Pesticide	
Reverse-Transcriptase-Inhibitor 10 ng/ml	McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.
Vasodilator uM	McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.
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

16-ALPHA-HYDROXY-3-BETA-METHOXY-URSA-12,19(29)-DIEN-27,28-DIOIC-ACID	Root Bark	--	8.0	*
27-O-BETA-D-GLUCOPYRANOSIDE-QUINOVIC-ACID	Root Bark	--	9.0	*
3-BETA-6-BETA-19-ALPHA-TRIHIDROXY-23-OXO-URS-12-EN-28-OIC ACID	Bark	--	57.4	*
3-BETA-6-BETA-19-ALPHA-TRIHIDROXY-URS-12-ENE-23-28-DIOIC ACID	Root Bark	--	8.0	*
3-BETA-HYDROXY-3-OXO-URS-12-EN-27,28-DIOIC-ACID	Root Bark	--	--	*
3BETA,6BETA,19ALPHA-TRIHIDROXY-URS-12-EN-28-OIC-ACID	Root Bark	197.0	250.0	*
3BETA,6BETA,19ALPHA-TRIHIDROXY-URS-12-EN-28-OIC-ACID	Bark	--	65.0	*

3BETA,6BETA,19ALPHA-TRIHYDROXY-URS-12-EN-28-OIC-ACID	Plant	--	--	*
5ALPHA-CARBOXYSTRICTOSIDINE	Plant	--	--	*
5ALPHA-CARBOXYSTRICTOSIDINE	Root Bark	--	255.0	*
6-BETA-19-ALPHA-DIHYDROXY-3-OXO-URS-12-EN-28-OIC-ACID	Root Bark	--	0.002	*
AKUAMMIGINE	Root	--	300.0	*
Activities (3)				
Adrenolytic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.			
Antimalarial				
Sympatholytic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.			
AKUAMMIGINE	Leaf	--	9200.0	*
Activities (3)				
Adrenolytic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.			
Antimalarial				
Sympatholytic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.			
ALLOISOPTEROPODINE	Root	--	--	*
Activities (1)				
Immunostimulant				
ALLOPTEROPODINE	Root	--	--	*
Activities (1)				
Immunostimulant				
ANGUSTINE	Leaf	--	--	*
Activities (1)				
Toxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
BETA-SITOSTEROL	Bark	--	--	*

Activities (47)

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

CAMPESTEROL

Bark -- -- *

Activities (2)

Antioxidant IC37=10 uM	
Hypocholesterolemic	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

CHLOROGENIC-ACID

Bark -- -- Van Ginkel, A. 1996. Identification of the Alkaloids and Flavonoids from Uncaria tomentosa Bark by TLC in Quality Control. Phytotherapy Research, 10: S18-S19.

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

Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in <i>Achillea millefolium</i> L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.
Interferonogenic	<i>Economic & 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</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Vulnerary	

CINCHONAIN-1-A	Bark	--	25.0	*
CINCHONAIN-1-B	Bark	--	65.0	*
CORYNOXEINE	Root	--	510.0	*

Activities (1)				
Calcium-Antagonist 10.1 uM rat				

CORYNOXEINE	Leaf	--	190.0	*
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Activities (1)				
Calcium-Antagonist 10.1 uM rat				

DIHYDROCORYNANTHEINE	Root	--	710.0	*
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Activities (7)				
(-)-Chronotropic				
Adrenergic-Blocker				
Antiarrhythmic				
Antihypertensive				
Antimalarial IC50=66 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. PlantaPhile Publications, Berlin.</i> 72 pp.			
Antiplasmodial IC50=66 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. PlantaPhile Publications, Berlin.</i> 72 pp.			
Hypotensive				

DIHYDROCORYNANTHEINE	Leaf	--	800.0	*
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Activities (7)				
(-)-Chronotropic				
Adrenergic-Blocker				
Antiarrhythmic				
Antihypertensive				
Antimalarial IC50=66 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. PlantaPhile Publications, Berlin.</i> 72 pp.			
Antiplasmodial IC50=66 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. PlantaPhile Publications, Berlin.</i> 72 pp.			
Hypotensive				

DIHYDROCORYNANTHEINE-N-OXIDE	Leaf	--	--	*
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HIRSUTEINE	Root	--	190.0	*
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Activities (3)				
Calcium-Antagonist				
Neuroprotective				
Vasodilator				

HIRSUTEINE	Leaf	--	140.0	*
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Activities (3)				
Calcium-Antagonist				
Neuroprotective				
Vasodilator				
HIRSUTINE	Leaf	--	330.0	*
Activities (8)				
(-)-Chronotropic				
Antiarrhythmic				
Antihypertensive				
Calcium-Antagonist 1 uM				
Dopaminergic				
Myocontractant				
Neuroprotective				
Vasodilator				
HIRSUTINE	Root	--	800.0	*
Activities (8)				
(-)-Chronotropic				
Antiarrhythmic				
Antihypertensive				
Calcium-Antagonist 1 uM				
Dopaminergic				
Myocontractant				
Neuroprotective				
Vasodilator				
HIRSUTINE-N-OXIDE	Leaf	--	--	*
ISOAJMALICINE	Leaf	--	310.0	*
ISOCORYNOXEINE	Root	--	950.0	*
Activities (1)				
Calcium-Antagonist 10.1 uM rat				
ISOCORYNOXEINE	Leaf	--	600.0	*
Activities (1)				
Calcium-Antagonist 10.1 uM rat				
ISOMITRAPHYLLINE	Root Bark	--	--	*
Activities (3)				
Antileukemic IC50=45-60 uM/l				
Immunostimulant				
Phagocytotic				
ISOMITRAPHYLLINE	Stem Bark	--	20.0	*
Activities (3)				
Antileukemic IC50=45-60 uM/l				
Immunostimulant				
Phagocytotic				
ISOMITRAPHYLLINE	Leaf	--	25000.0	*
Activities (3)				
Antileukemic IC50=45-60 uM/l				
Immunostimulant				
Phagocytotic				

ISOMITRAPHYLLINE	Root	--	3300.0	*
Activities (3)				
Antileukemic IC50=45-60 uM/l				
Immunostimulant				
Phagocytotic				
ISOPTEROPODINE	Leaf	--	3100.0	*
Activities (3)				
Antileukemic IC54=25-35 uM/l				
Immunostimulant 10-Jan				
Phagocytotic 1-10 ug/l				
ISOPTEROPODINE	Stem Bark	60.0	630.0	*
Activities (3)				
Antileukemic IC54=25-35 uM/l				
Immunostimulant 10-Jan				
Phagocytotic 1-10 ug/l				
ISOPTEROPODINE	Root Bark	--	--	*
Activities (3)				
Antileukemic IC54=25-35 uM/l				
Immunostimulant 10-Jan				
Phagocytotic 1-10 ug/l				
ISOPTEROPODINE	Root	19.3	2800.0	*
Activities (3)				
Antileukemic IC54=25-35 uM/l				
Immunostimulant 10-Jan				
Phagocytotic 1-10 ug/l				
ISORHYNCHOPHYLLINE	Root Bark	--	--	*
Activities (15)				
Antiarrhythmic				
Antidementia				
Antiexcitotoxic				
Antihypertensive				
Antiischemic				
Antioxidant				
Antiradicular				
CNS-Depressant				
Calcium-Antagonist 10.1 uM rat				
Hypotensive				
Immunostimulant				
Neuroprotective 100- 1,000 uM				
Phagocytotic				
Sedative				
Vasodilator				
ISORHYNCHOPHYLLINE	Root	45.5	21600.0	*

Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

Activities (15)					
Antiarrhythmic					
Antidementia					
Antiexcitotoxic					
Antihypertensive					
Antiischemic					
Antioxidant					
Antiradicular					
CNS-Depressant					
Calcium-Antagonist					
10.1 uM rat					
Hypotensive					
Immunostimulant					
Neuroprotective 100-1,000 uM					
Phagocytotic	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.				
Sedative					
Vasodilator					

ISORHYNCHOPHYLLINE	Leaf	--	22200.0		*
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Activities (15)					
Antiarrhythmic					
Antidementia					
Antiexcitotoxic					
Antihypertensive					
Antiischemic					
Antioxidant					
Antiradicular					
CNS-Depressant					
Calcium-Antagonist					
10.1 uM rat					
Hypotensive					
Immunostimulant					
Neuroprotective 100-1,000 uM					
Phagocytotic	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.				
Sedative					
Vasodilator					

ISORHYNCHOPHYLLINE-N-OXIDE	Leaf	--	--		*
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ISOROTUNDIFOLINE	Stem	--	--		*
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MITRAPHYLLINE	Stem	30.0	500.0		*
	Bark				

Activities (12)					
Anesthetic	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.				
Antihypertensive	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.				
Antileukemic IC50=60-120 uM/l					
CNS-Depressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Cardiodepressant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.				
Hypotensive	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Immunostimulant					
Myocontractant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.				
Myorelaxant					
Pesticide					
Protistocidal	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.				
Vasodilator					

MITRAPHYLLINE	Root	--	5000.0		*
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Activities (12)

Anesthetic	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antihypertensive	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antileukemic IC50=60-120 uM/l	
CNS-Depressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardi depressant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Hypotensive	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Immunostimulant	
Myocontractant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Myorelaxant	
Pesticide	
Protisticide	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Vasodilator	

MITRAPHYLLINE Leaf -- 10900.0 *

Activities (12)

Anesthetic	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antihypertensive	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antileukemic IC50=60-120 uM/l	
CNS-Depressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardi depressant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Hypotensive	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Immunostimulant	
Myocontractant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Myorelaxant	
Pesticide	
Protisticide	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Vasodilator	

MITRAPHYLLINE Bark -- -- *

Activities (12)

Anesthetic	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antihypertensive	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antileukemic IC50=60-120 uM/l	
CNS-Depressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardi depressant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Hypotensive	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Immunostimulant	
Myocontractant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Myorelaxant	
Pesticide	
Protisticide	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Vasodilator	

MITRAPHYLLINE Root -- -- *
Bark

Activities (12)

Anesthetic	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antihypertensive	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antileukemic IC50=60-120 uM/l	
CNS-Depressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardi depressant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Hypotensive	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Immunostimulant	
Myocontractant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Myorelaxant	
Pesticide	
Protisticide	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Vasodilator	

OLEANOLIC-ACID

Plant -- -- *

Activities (64)

Abortifacient	
AntiHIV IC50=21.8 ug/ml	
AntiHIV EC50=1.7 ug/ml	Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. J. Nat. Prod., 61(9): 1090-1095.
AntiPGE2 IC50=24 uM	
AntiTGF-beta IC50=19-24 uM	
Antiallergic	
Antiarrhythmic 40 mg/kg	
Antiatherosclerotic	
Antibacterial MIC=625-1,250 ug/ml	
Anticarcinomic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Anticariogenic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Anticomplement IC40-50 0.01 mM/l gpg	Hansel, 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.
Anticomplement IC80-90 0.05 mM/l gpg	Hansel, 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.
Antiedemic IC36=40 mg/kg ipr rat	
Antifertility	
Antigingivitic MIC=625-1,250 ug/ml	
Antihepatotoxic	
Antihyperlipidemic	
Antiinflammatory 40 mg/kg ipr	Aquino, R., De Feo, V., De Simone, F., Pizza, C.*, and Cirino, G. Plant Metabolites. New Compounds And Anti-Inflammatory Activity Of Uncaria tomentosa. Journal of Natural Products, 54(2): 453-459, 1991.
Antiischemic 40 mg/kg	
Antileukemic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antileukotriene IC50=17 uM	
Antimalarial IC50=70-89 ug/ml	
Antinephritic IC50=19-24 uM	
Antioxidant	Balanehru, S. and Nagarajan, B. 1992. Intervention of Adriamycin Induced Free Radical Damage. Biochemistry International 28(4): 735-744, 1992.
Antioxidant IC46=10 uM	
Antiperiodontic MIC=625-1,250 ug/ml	
Antiperoxidant IC30=200 ug/ml	
Anti plaque MIC=625-1,250 ug/ml	
Antiplasmodial IC50=70-89 ug/ml	
Antisarcomic	
Antiseptic MIC=625-1,250 ug/ml	
Antitumor	
Antitumor (Breast)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Colon)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Kidney)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.

Antitumor (Lung)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Pancreas)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antiulcer >carbenoxolone	
Antiviral EC50=1.7 ug/ml	Kashiwada, Y., et. al. 1998. <i>Anti-AIDS Agents</i> . 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61 (9): 1090-1095.
Antiviral IC50=21.8 ug/ml	Kashiwada, Y., et. al. 1998. <i>Anti-AIDS Agents</i> . 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61 (9): 1090-1095.
Aromatase-Inhibitor	
Beta-Blocker	
Beta-Glucuronidase-Inhibitor ~100 mg/kg	
COX-2-Inhibitor IC50=295 uM/	
COX-2-Inhibitor	Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from <i>Plantago major</i> , a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. <i>J. Nat. Prod.</i> , 61(10): 1212-1215.
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective 40 mg/kg	
Cardiotonic	
Cyclooxygenase-Inhibitor	
Diuretic	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Elastase-Inhibitor IC50=~15 uM	
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 211.
Hypolipemic	
Hypotensive	
Immunomodulator	
Leucocytogenic	
NF-kB-Inhibitor	
Phagocytotic	
Piscicide	ANON. 1948-1976. <i>The Wealth of India raw materials</i> . Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Prostaglandin-Synthesis-Inhibitor igs mus	
Sedative	
Uterotonic	
Vasopressor	

OLEANOLIC-ACID

Root 100.0 150.0 1.0 *

Bark

Activities (64)**Abortifacient**

AntiHIV IC50=21.8 ug/ml

AntiHIV EC50=1.7 ug/ml

Kashiwada, Y., et. al. 1998. *Anti-AIDS Agents*. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. *J. Nat. Prod.*, 61 (9): 1090-1095.

AntiPGE2 IC50=24 uM

AntiTGF-beta IC50=19-24 uM

Antiallergic

Antiarrhythmic 40 mg/kg

Antiatherosclerotic

Antibacterial MIC=625-1,250 ug/ml

Anticarcinomic

Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Anticariogenic

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

Anticomplement IC40-50 0.01 mM/l gpg

Hansel, 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.

Anticomplement IC80-90 0.05 mM/l gpg

Hansel, 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.

Antiedemic IC36=40 mg/kg ipr rat

Antifertility

Antigingivitic MIC=625-1,250 ug/ml

Antihepatotoxic

Antihyperlipidemic

Antiinflammatory 40 mg/kg ipr

Aquino, R., De Feo, V., De Simone, F., Pizza, C.*, and Cirino, G. *Plant Metabolites. New Compounds And Anti-Inflammatory Activity Of Uncaria tomentosa*. *Journal of Natural Products*, 54(2): 453-459, 1991.

Antischemic 40 mg/kg

Antileukemic

Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. *Am J Chin Med*, 31(1):37-46.

Antileukotriene IC50=17 uM

Antimalarial IC50=70-89 ug/ml

Antinephritic IC50=19-24 uM	
Antioxidant	Balanehru, S. and Nagarajan, B. 1992. Intervention of Adriamycin Induced Free Radical Damage. <i>Biochemistry International</i> 28(4): 735-744, 1992.
Antioxidant IC46=10 uM	
Antiperiodontic MIC=625-1,250 ug/ml	
Antiperoxidant IC30=200 ug/ml	
Antiplaque MIC=625-1,250 ug/ml	
Antiplasmodial IC50=70-89 ug/ml	
Antisarcotic	
Antiseptic MIC=625-1,250 ug/ml	
Antitumor	
Antitumor (Breast)	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.
Antitumor (Colon)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Kidney)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Lung)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antitumor (Pancreas)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antiulcer >carbenoxolone	
Antiviral EC50=1.7 ug/ml	Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61(9): 1090-1095.
Antiviral IC50=21.8 ug/ml	Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61(9): 1090-1095.
Aromatase-Inhibitor	
Beta-Blocker	
Beta-Glucuronidase-Inhibitor ~100 mg/kg	
COX-2-Inhibitor IC50=295 uM/	
COX-2-Inhibitor	Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from <i>Plantago major</i> , a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. <i>J. Nat. Prod.</i> , 61(10): 1212-1215.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
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Cardiotonic	
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Diuretic	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Elastase-Inhibitor IC50=~15 uM	
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 211.
Hypolipemic	
Hypotensive	
Immunomodulator	
Leucocytogenic	
NF-kB-Inhibitor	
Phagocytotic	
Piscicide	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Prostaglandin-Synthesis-Inhibitor igs mus	
Sedative	
Uterotonic	
Vasopressor	

PTEROPODINE Leaf -- 4800.0 *

Activities (3)

Antitumor	
Cytotoxic	
Phagocytotic	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.

PTEROPODINE Bark -- -- *

Activities (3)					
Antitumor					
Cytotoxic					
Phagocytotic	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.				
PTEROPODINE	Stem Bark	50.0	3000.0		*
Activities (3)					
Antitumor					
Cytotoxic					
Phagocytotic	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.				
PTEROPODINE	Root Bark	--	--		*
Activities (3)					
Antitumor					
Cytotoxic					
Phagocytotic	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.				
PTEROPODINE	Root	--	5600.0		*
Activities (3)					
Antitumor					
Cytotoxic					
Phagocytotic	Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.				
QUINOVIC ACID-(28-1)-BETA-D-GLUCOSYL-BETA-D-GLUCOSYL ESTER	Bark	--	--		*
QUINOVIC ACID-3-BETA-O-(BETA-D-FUCOSYL)-(28-1)-BETA-D-GLUCOSYL ESTER	Bark	--	--		*
QUINOVIC ACID-3-BETA-O-(BETA-D-GLUCETA-D-GLUCOSYLESTERSYL-(1-3)-BETA-D-FUCOSYL)-(28-1)-BETA-D-GLUCOSYL ESTER	Bark	--	--		*
QUINOVIC ACID-3-BETA-O-(BETA-D-GLUCOPYRANOSYL-(1-3)-BETA-D-FUCOPYRANOSIDE)	Bark	--	46.0		*
QUINOVIC ACID-3-BETA-O-(BETA-D-GLUCOPYRANOSYL-(1-3)-BETA-D-FUCOPYRANOSY)-(28-1)-BETA-D-GLUCOPYRANOSYL ESTER	Bark	--	50.0		*
QUINOVIC ACID-3-BETA-O-(BETA-D-GLUCOSYL-(1-3)-BETA-D-FUCOSIDE)	Bark	--	--		*
QUINOVIC ACID-3-BETA-O-(BETA-D-GLUCOSYL-(1-3)-BETA-D-FUCOSYL)-(27-1)-B	Bark	--	--		*
QUINOVIC ACID-3-BETA-O-(BETA-D-QUINOVOSYL)-(28-1)-BETA-D-GLUCOSYL ESTER	Bark	--	--		*
QUINOVIC ACID-3-BETA-O-BETA-D-FUCOSYL-27-BETA-D-GLUCOSYL ESTER	Root Bark	--	160.0		*
QUINOVIC ACID-3-BETA-O-BETA-D-QUINOVOSYL-27-BETA-D-GLUCOSYL ESTER	Root Bark	--	150.0		*
QUINOVIC-ACID-3-BETA-O-ALPHA-L-RHAMNOPYRANOSIDE	Root Bark	--	17.0		*
QUINOVIC-ACID-3-BETA-O-ALPHA-L-RHAMNOPYRANOSYL-(1,3)-GLUCOPYRANOSYL	Root Bark	--	18.0		*
QUINOVIC-ACID-3-BETA-O-BETA-D-QUINOVOPYRANOSYL-(1,3)-GALACTOPYRANOSYL	Root Bark	--	7.0		*
QUINOVIC-ACID-3-BETA-O-BETA-D-QUINOVOPYRANOSYL-(1,3)-GLUCOPYRANOSYL	Root Bark	--	7.0		*

QUINOVIC-ACID-3BETA-O-(BETA-D-GLUCOPYRANOSYL-(1->3)BETA-D-FUCOPYRANOSYL-(27->1)BETA-D-GLUCOPYRANOSYL-ESTER Bark -- 20.0 *

QUINOVIC-ACID-3BETA-O-BETA-D-FUCOPYRANOSIDE Bark -- -- *

QUINOVIC-ACID-3BETA-O-BETA-D-FUCOPYRANOSYL-(27->1)BETA-D-GLUCOPYRANOSYLESTER Bark -- -- *

QUINOVIC-ACID-3BETA-O-BETA-D-QUINOVOPIRANOSIDE Bark -- -- *

RHYNCHOPHYLLINE Root 23.3 10300.0 *

Activities (23)

Anesthetic Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.

Antiaggregant

Antidementia

Antiexcitotoxic

Antihypertensive

Antiischemic

Antioxidant

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

Antiradicular

Antithrombotic

Calcium-Antagonist 10.1 uM rat

Calcium-Blocker

Cardiodepressant Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.

Dopaminergic

Febrifuge

Hypotensive

Myocontractant Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.

Neuroparalytic

Protisticide Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.

Sedative

Serotonergic

Uterotonic

Vasodilator

RHYNCHOPHYLLINE Leaf -- 7700.0 *

Activities (23)

Anesthetic Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.

Antiaggregant

Antidementia

Antiexcitotoxic

Antihypertensive

Antiischemic

Antioxidant

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

Antiradicular

Antithrombotic

Calcium-Antagonist 10.1 uM rat

Calcium-Blocker

Cardiodepressant Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.

Dopaminergic

Febrifuge

Hypotensive

Myocontractant Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.

Neuroparalytic

Protisticide Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.

Sedative

Serotonergic

Uterotonic

Vasodilator

Activities (23)

Anesthetic	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antiaggregant	
Antidementia	
Antiexcitotoxic	
Antihypertensive	
Antiischemic	
Antioxidant	
Antipyretic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiradicular	
Antithrombotic	
Calcium-Antagonist 10.1 uM rat	
Calcium-Blocker	
Cardiodepressant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Dopaminergic	
Febrifuge	
Hypotensive	
Myocontractant	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Neuroparalytic	
Protisticide	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Sedative	
Serotonergic	
Uterotonic	
Vasodilator	

RHYNCHOPHYLLINE-N-OXIDE

Leaf -- -- *

ROTUNDIFOLINE

Stem -- -- *

RUTIN

Bark -- -- Van Ginkel, A. 1996. Identification of the Alkaloids and Flavonoids from *Uncaria tomentosa* Bark by TLC in Quality Control. *Phytotherapy Research*, 10: S18-S19.**Activities (87)**

5-HT-Inhibitor	
Aldehyde-Oxidase-Inhibitor IC ₂₇₋₅₂ =10 uM	
Aldose-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. <i>Sankyo Kenkyusho Nempo</i> , 43: 99-110.
Allelochemic	
AntiCVI 270 mg/man/day	
Antiaggregant ED ₅₀ =33 nmol/kg iv	
Antiallergic	
Antiapoplectic	
Antiatherogenic	
Antiatherosclerotic	
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Anticancer	
Anticapillary-Fragility 20-100 mg orl man	Merck 7th Ed.
Anticataract	
Anticlastogen	
Anticonvulsant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antidementia	Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
Antidermatitic	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
Antidiabetic	Jin, G-Z., Yamagata, Y., and Tomita, K.-i. 1989. Structure of Rutin Pentamethanol. <i>Chem. Pharm. Bull.</i> 38(2): 297-300, 1990.
Antiedemic 270 mg/day orl man	
Antierhythmic	
Antifeedant	
Antiglaucomic 60 mg/day	Werbach, M. 1993. Healing with Food. Harper Collins, New York, 443 pp.
Antihematuric	
Antihemorrhoidal	

Antihepatotoxic	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.
Antiherpetic	Economic & Medicinal Plant Research, 5: 198.
Antihistaminic	
Antihypertensive	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antiinflammatory 20 mg/kg	
Antimalarial IC50=>100 ug/ml	Khalid, S.A., Farouk, A., Geary**, T.G., and Jensen, J.B. 1985. Potential Antimalarial Candidates From African Plants: An In Vitro Approach Using Plasmodium falciparum*. Journal of Ethnopharmacology, 15: 201-209, 1986.
Antimelanomic	
Antimetastatic	
Antimutagenic ID50=2-5 nM	
Antinephritic	
Antinociceptive	
Antioxidant IC28=30 ppm	
Antioxidant IC50=120 uM	
Antioxidant IC54=10 uM	
Antiperoxidant IC50=10-20 uM	
Antiplatelet	
Antiproliferant 50-75 uM/l	
Antiprotozoal	
Antipurpuric	
Antiradicular 9 x quercetin	
Antispasmodic	
Antisunburn	
Antithrombogenic EC50=500 nM	
Antithyroid IC50=68 uM	
Antitrypanosomic 100 mg/kg	Planta Medica, 57: A44, 1991.
Antitumor	
Antitumor-Promoter	
Antiulcer	
Antivaricose	
Antiviral	
Apoptotic 75 uM/l	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Capillariprotective	Merck 11th Edition
Catabolic	
Chemopreventive	
Cytoprotective IC50=3 uM	
Estrogenic?	Economic & Medicinal Plant Research, 6: 189.
Hemostat	
Hepatomagenic 20,000 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 20 mg/kg rat	
Hypocholesterolemic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Hypotensive	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Immunomodulator	
Insecticide	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.
Insectiphile	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Juvabional	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvostat IC95=4,000-8,000 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 IC75=2.5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Mutagenic	Economic & Medicinal Plant Research, 6: 189.
Myoprotective	
Myorelaxant	Economic & Medicinal Plant Research, 6: 189.
Oviposition-Stimulant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
PAF-Inhibitor	
Pesticide	
Protisticide	
Radioprotective	
Sunscreen	
Topoisomerase-II-Inhibitor IC50=1 ug/ml	Bernard, F. X., Sable, S., Cameron, B., Provost, J., Desnottes, J. F., Cruzet, J., Blanche, F. 1997. Glycosylated Flavones as Selective Inhibitors of Topoisomerase IV. Antimicrobial Agents & Chemotherapy, 41: 992-998.

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

SPECIOPHYLLINE Bark -- -- *

Activities (1)

Antileukemic IC50=60 uM/l

SPECIOPHYLLINE Root Bark -- -- *

Activities (1)

Antileukemic IC50=60 uM/l

SPECIOPHYLLINE Stem Bark 80.0 1600.0 *

Activities (1)

Antileukemic IC50=60 uM/l

SPECIOPHYLLINE Root -- 6600.0 *

Activities (1)

Antileukemic IC50=60 uM/l

SPECIOPHYLLINE Leaf -- 10800.0 *

Activities (1)

Antileukemic IC50=60 uM/l

STIGMASTEROL Bark -- -- *

Activities (12)

Antihepatotoxic

Antiinflammatory Lawrence Review of Natural Products, 1995

Antinociceptive

Antiophidic 2.3 mg ipr mus Economic & Medicinal Plant Research, 5: 363.

Antioxidant IC33=10 uM

Antiviral Abid Ali Khan, M.M., Jain, D.C., Bhakuni, R.S., Zaim, M., and Thakur, R.S. 1991. Occurrence of some antiviral sterols in Artemisia annua. Plant Science, 75: 161-165, 1991.

Artemicide LC50=110 ppm Jung, J.H., Pummangura, S., Chaichantipyuth, c., Patarapanich, C., and McLaughlin, J.L. 1989. Bioactive Constituents of Melodorum fruticosum. Phytochemistry. 29(5): 1667-1670. 1990.

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

Estrogenic

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

Ovulant

Sedative

UNCARINE Bark -- -- *

UNCARINE-F Leaf -- 2800.0 *

Activities (1)

Antileukemic IC50=22-29 uM/l

UNCARINE-F Root -- 3100.0 *

Activities (1)

Antileukemic IC50=22-29 uM/l

UNCARINE-F Root Bark -- -- *

Activities (1)

Antileukemic IC50=22-29 uM/l

Activities (1)

Antileukemic IC50=22-29 uM/l

UNCARINE-F

Stem 30.0 630.0
Bark

*

Activities (1)

Antileukemic IC50=22-29 uM/l

URSOLIC-ACID

Plant -- --

*

Activities (89)

Analgesic

AntiEBV Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

AntiHIV EC50=2.0 ug/ml Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. J. Nat. Prod., 61 (9): 1090-1095.

AntiHIV IC50=6.5 ug/ml Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. J. Nat. Prod., 61 (9): 1090-1095.

AntiHIV IC85=18 ug/ml

AntiHIV 6.7 uM

AntiTGF-beta IC50=6-7.5 uM

Antialzheimeran Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from Plantago major, a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. J. Nat. Prod., 61(10): 1212-1215.

Antiarrhythmic

Antiarthritic Planta Medica, 57: A56, 1991.

Antibacterial

Anticancer Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from Plantago major, a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. J. Nat. Prod., 61(10): 1212-1215.

Anticancer (Colon) Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from Plantago major, a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. J. Nat. Prod., 61(10): 1212-1215.

Anticarcinomic Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.

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

Anticholestatic 28-100 mg/kg orl Shukla, B., Visen, P.K.S., Patnaik, G.K., Tripathi, S.C., Srimal, R.C., Dayal, R., and Dobhal, P.C. Hepatoprotective Activity in the Rat of Ursolic Acid Isolated from Eucalyptus Hybrid. Phytotherapy Research 6: 74-79, 1992.

Anticomplement IC100 0.1 mM/l gpg Hansel, 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.

Anticomplement IC80-90 0.05 mM/l gpg Hansel, 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.

Antidiabetic Chemical Constituents of Oriental Herbs (3 diff. books)

Antiedemic

Antiescherichic

Antifibrosarcomic IC80=10 uM

Antihepatotoxic 5-20 mg/kg ipr Shukla, B., Visen, P.K.S., Patnaik, G.K., Tripathi, S.C., Srimal, R.C., Dayal, R., and Dobhal, P.C. Hepatoprotective Activity in the Rat of Ursolic Acid Isolated from Eucalyptus Hybrid. Phytotherapy Research 6: 74-79, 1992.

Antihistaminic Tsuruga, T., Chun, Y.-T., Ebizuka, Y., and Sankawa, U. 1991. Biologically Active Constituents of Melaleuca leucadendron: Inhibitors of Induced Histamine Release from Rat Mast Cells. Chem. Pharm. Bull. 39(12): 3276-3278, 1991.

Antihyperlipidemic

Antiinflammatory 1/3 indomethacin

Antiinflammatory IC24=500 mg/kg

Antileishmanic ED50=20 uM

Antileukemic IC50=2.5-17.8 ug/ml

Antilymphomic Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

Antimalarial IC50=28-37 ug/ml

Antimetastatic IC80=10 uM

Antimutagenic IC57-80=80 mg/kg

Antinephritic IC50=6-7.5 uM

Antiobesity? Internat. J. Oriental Med. 16: 4.

Antioxidant IC50=10 uM

Antiperoxidant IC35=200 ug/ml

Antiplasmodial IC50=28-37 ug/ml

Antiproliferative IC50=15-20 uM

Antistaphylococcic

Antithromboxane IC50=50 uM	
Antitrypanosomic	
Antitumor	Cancer Research, 54: 701, 1994.
Antitumor (Breast) 0.5% diet	
Antitumor (Breast) IC50=15-20 uM	
Antitumor (Cervix)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Colon)	
Antitumor (Lung)	
Antitumor (Ovary)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor (Stomach) IC50=15-20 uM	
Antitumor (brain)	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antitumor-Promoter	Planta Medica, 57: A56, 1991.
Antiulcer	Shukla, B., Visen, P.K.S., Patnaik, G.K., Tripathi, S.C., Srimal, R.C., Dayal, R., and Dobhal, P.C. Hepatoprotective Activity in the Rat of Ursolic Acid Isolated from Eucalyptus Hybrid. Phytotherapy Research 6: 74-79, 1992.
Antiviral IC85=18 ug/ml	
Aromatase-Inhibitor	
Beta-Blocker	
Beta-Glucuronidase- Inhibitor ~100 mg/kg	
CNS-Depressant	
COX-2-Inhibitor IC50=130 uM/	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Cardioprotective	
Cardiotonic	
Choleretic 5-20 mg/kg orl	Shukla, B., Visen, P.K.S., Patnaik, G.K., Tripathi, S.C., Srimal, R.C., Dayal, R., and Dobhal, P.C. Hepatoprotective Activity in the Rat of Ursolic Acid Isolated from Eucalyptus Hybrid. Phytotherapy Research 6: 74-79, 1992.
Cyclooxygenase-Inhibitor	Ringbom, T., Seguar, L., Noreen, Y., Perera, P., Bohlin, L. 1998. Ursolic Acid from Plantago major, a Selective Inhibitor of Cyclooxygenase-2 Catalyzed Prostaglandin Biosynthesis. J. Nat. Prod., 61(10): 1212-1215.
Cytotoxic 50 ppm	
Cytotoxic ED50=3.75 ug/ml	
Cytotoxic 7.2 uM	
Diuretic	
Elastase-Inhibitor IC50=~15 uM	
Hepatoprotective 1-100 ug/ml	
Hepatoprotective 10 mg/kg	
Hypoglycemic	Ivorra, M.D., Paya, M., and Villar, A. 1989. A Review of Natural Products and Plants as Potential Antidiabetic Drugs. Journal of Ethnopharmacology, 27: 243-275, 1989.
Hypotensive	
Immunomodulator	
Leucocytogenic	
Lipoxygenase-Inhibitor IC50=0.18 mM	
MMP-9-Inhibitor IC80=10 uM	
Ornithine-Decarboxylase- Inhibitor	
Pesticide	
Piscicide	
Potassium-Sparing 3 mg/rat	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Protease-Inhibitor IC85=18 ug/ml	
Protisticide	Chemical Express, 7: 285, 1992.
Quinone-Reductase- Inducer 5 ug/ml	Lee, S. K., Song, Y., Mata-Greenwood, E., Kelloff, G. J., Steele, V. E., Pezzuto, J. M. 1999. Modulation of in vitro Biomarkers of the Carcinogenic Process by Chemopreventive Agents. Anticancer Res., 19: 35-44.
Sodium-Sparing 3 mg/rat	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
TOPO-2-Inhibitor	
Trypanocide	
Vasopressor	