

# List of All Chemicals

## **P** Cinchona pubescens (Rubiaceae)

### Common name(s)

Redbark; Red Peruvian-Bark; Red Cinchona; Quinine

### How used

Medicinal

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

Chemical	Part All ▾	Low PPM	High PPM	StdDev	*Reference
(-)-EPICATECHIN	Bark	--	--		*

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

AntiHIV EC50=2 ug/ml

Antiaggregant

Antianaphylactic

Antibacterial

Antidiabetic 30 mg/kg rat

Antihepatic Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.

Antihyperglycemic

Antiinflammatory

Antileukemic Economic &amp; 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 &amp; 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=&gt;100 ug/ml

Hypocholesterolemic

Hypoglycemic

Immunostimulant

Insulinogenic Economic &amp; 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 &amp; 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=&gt;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

1-HYDROXY-2-HYDROXYMETHYLANTHRAQUINONE	Tissue	--	--	*
	Culture			

**Activities (1)**

Antileukemic ED50=0.09 ug/ml

10-METHOXYCINCHONAMINE	Leaf	--	--	*
------------------------	------	----	----	---

**Activities (2)**

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

Pesticide

10-METHOXYCINCHONAMINE	Tissue	--	--	*
	Culture			

<b>Activities (2)</b>				
Amebicide Pesticide	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.			
2,4,5-TRIHYDROXY-1-METHOXY-ANTHRAQUINONE	Tissue Culture	--	--	*
2-HYDROXY-1,3,4,6-TETRAMETHOXY-ANTHRAQUINONE	Tissue Culture	--	--	*
2-HYDROXY-1,3,4-TRIMETHOXY-ANTHRAQUINONE	Tissue Culture	--	--	*
3-ALPHA,17-ALPHA-CINCHOPHYLLINE	Stem	--	--	*
<b>Activities (3)</b>				
Amebicide IC50=1.88 ug/ml Cytotoxic IC50=3.55 ug/ml Pesticide	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.			
3-ALPHA,17-BETA-CINCHOPHYLLINE	Stem	--	--	*
<b>Activities (3)</b>				
Amebicide IC50=3.50 ug/ml Cytotoxic IC50=0.4 ug/ml Pesticide	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.			
3-ALPHA,17-BETA-CINCHOPHYLLINE	Leaf	--	--	*
<b>Activities (3)</b>				
Amebicide IC50=3.50 ug/ml Cytotoxic IC50=0.4 ug/ml Pesticide	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.			
3-BETA,17-BETA-CINCHOPHYLLINE	Leaf	--	--	*
<b>Activities (3)</b>				
Amebicide IC50=1.62 ug/ml Cytotoxic IC50=2.24 ug/ml Pesticide	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. <i>Advances in Medicinal Plant Research</i> . Wiss. Verlag. Stuttgart.			
3-EPIQUINAMINE	Leaf	--	--	*
6,7-DIHYDROXY-1-METHOXY-2-METHYL-ANTHRAQUINONE	Tissue Culture	--	--	*
ALIZARIN	Tissue Culture	--	--	*
<b>Activities (11)</b>				
5-Alpha-Reductase-Inhibitor Allergenic Antibacterial Antileukemic Antimutagenic Antioxidant Calcium-Antagonist 1/5 aloeeomodine Dye Hepatoprotective Pesticide Pigment	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.			
	Economic & Medicinal Plant Research, 6: 235.			
	Journal of Nutritional and Environmental Medicine. 1997. Volume 7: 79.			
	Merck 11th Edition			
	Journal of Nutritional and Environmental Medicine. 1997. Volume 7: 79.			
	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.			
ALIZARIN-1-METHYL-ETHER	Tissue Culture	--	--	*

**Activities (2)**

Antileukemic 10 mg/kg  
Cytotoxic

ALIZARIN-2-METHYL-ETHER      Tissue --      --      \*  
Culture

**Activities (3)**

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

ALKALOIDS      Bark      50000.0      150000.0      1.44      Bisset, N.G., ed. 1994. *Herbal Drugs and Phytopharmaceuticals.* CRC Press. Boca Raton, FL. 566 pp.

ANTHRAGALLOL-1,2-DIMETHYL-ETHER      Tissue --      --      \*  
Culture

CAFFEIC-ACID      Leaf      --      --      \*

**Activities (102)**

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

Allergenic

Analgesic

AntiHIV EC50=200 ug/ml

AntiLegionella

Antiadenoviral      Economic & Medicinal Plant Research, 5: 207.

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

Antiaging

Antiatherogenic

Antibacterial

Anticancer

Anticarcinogenic      Economic & Medicinal Plant Research, 6: 189.

Antidepressant

Antiedemic      Economic & Medicinal Plant Research, 6: 189.

Antielastase IC50=93 um/l

Antielastase IC50=86 ug/ml (475 uM)

Antiescherichic

Antiflu      Economic & Medicinal Plant Research, 5: 207.

Antigonadotropic      Jim Duke's personal files.

Antihemolytic 25 uM      Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. *Phytochemistry*. 36(3): 579-583. 1994.

Antihepatoadenomic 200 ppm diet orl  
mus

Antihepatotoxic

Antiherpetic 50 ug/ml

Antiherpetic EC50=>50 ug/ml

Antihistaminic

Antihypercholesterolemic      Economic & Medicinal Plant Research, 6: 189.

Antihyperthyroid

Antiinflammatory

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

Antileukotriene

Antimelanogenic

Antimutagenic      Ki Soon Rhee. Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. *Phenolic Compounds in Food and Their Effects on Health*, Ch.18.

Antinitrosaminic      Ki Soon Rhee. Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. *Phenolic Compounds in Food and Their Effects on Health*, Ch.18.

Antiphidic

Antioxidant 50 uM

Antioxidant IC57=30 ppm

Antioxidant 1/3 quercetin

Antioxidant 30 mM

Antioxidant 1.3 x Vit. E

Antioxidant 1/2 BHA

Antiperoxidant IC50=44 uM      *Planta Medica*, 57: A54, 1991.

Antiperoxidant IC35=200 ug/ml

Antiperoxidant IC85=100 ug/ml

Antiproliferant	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antiprostaglandin	
Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antiradicular 1/3 quercetin	
Antiradicular 30 mM	
Antiradicular IC50=32-35 uM	
Antiseptic	
Antispasmodic EC50=3.4-15 uM	Phytotherapy Research, 4: 73.
Antistaphylococcic	
Antistomatitic	Economic & Medicinal Plant Research, 5: 207.
Antisunburn	
Antithiamin	Phenolic Compounds in Food and Their Effects on Health, 69.
Antithyroid	Jim Duke's personal files.
Antitumor 200 ppm diet orl mus	
Antitumor (Skin)	
Antitumor-Promoter IC42=10 uM	Cancer Research, 48: 5941.
Antiulcerogenic	
Antivaccinia	Economic & Medicinal Plant Research, 5: 207.
Antiviral IC50=62.5 ug/ml	
Anxiolytic	
CNS-Active	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
COX-2-Inhibitor IC32=100 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic 2% (diet)	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Clastogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Co-carcinogenic	
Collagen-Sparing	
Cytoprotective	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Cytotoxic TC50=200 ug/ml	
DNA-Active	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
DNA-Protective	
Diuretic	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Fungicide MIC=0.4 mg/ml	
Hepatocarcinogenic 400 ppm diet orl mus (in the absence of alcohol)	
Hepatoprotective	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 210.
Hepatotropic	
Histamine-Inhibitor	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in Achillea millefolium L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.
Leukotriene-Inhibitor	
Lipoxygenase-Inhibitor IC27=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. <i>J. Agric. Food Chem.</i> 38: 688-690.
Lipoxygenase-Inhibitor IC50=62-148 uM	
Lyase-Inhibitor IC50=94-164 uM	
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.25.
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Pesticide	
Prooxidant	
Prostaglandigenic	
Sedative 500 mg	
Sunscreen IC50=2.5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.
Sunscreen IC91=5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.
Sunscreen IC98=25 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. <i>Fitoterapia</i> 64(2): 134-136, 1993.
Tumorigenic	Jim Duke's personal files.
Vulnerary	

CAFFEIC-ACID Bark -- -- \*

**Activities (102)**

Aldose-Reductase-Inhibitor 4 ug/ml (weak activity)	Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. Sankyo Kenkyusho Nempo, 43: 99-110.
Allergenic	
Analgesic	
AntiHIV EC50=200 ug/ml	
AntiLegionella	
Antiadenoviral	Economic & Medicinal Plant Research, 5: 207.
Antiaaggregant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiaging	
Antiatherogenic	
Antibacterial	
Anticancer	
Anticarcinogenic	Economic & Medicinal Plant Research, 6: 189.
Antidepressant	
Antiedemic	Economic & Medicinal Plant Research, 6: 189.
Antielastase IC50=93 um/l	
Antielastase IC50=86 ug/ml (475 uM)	
Antiescherichic	
Antiflu	Economic & Medicinal Plant Research, 5: 207.
Antigonadotropic	Jim Duke's personal files.
Antihemolytic 25 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. Phytochemistry. 36(3): 579-583. 1994.
Antihepatoadenomic 200 ppm diet orl mus	
Antihepatotoxic	
Antiherpetic 50 ug/ml	
Antiherpetic EC50=>50 ug/ml	
Antihistaminic	
Antihypercholesterolemic	Economic & Medicinal Plant Research, 6: 189.
Antihyperthyroid	
Antiinflammatory	
Antileukemic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antileukotriene	
Antimelanogenic	
Antimutagenic	Ki Soon Rhee. Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health, Ch.18.
Antinitrosaminic	Ki Soon Rhee. Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health, Ch.18.
Antiphidic	
Antioxidant 50 uM	
Antioxidant IC57=30 ppm	
Antioxidant 1/3 quercetin	
Antioxidant 30 mM	
Antioxidant 1.3 x Vit. E	
Antioxidant 1/2 BHA	
Antiperoxidant IC50=44 uM	Planta Medica, 57: A54, 1991.
Antiperoxidant IC35=200 ug/ml	
Antiperoxidant IC85=100 ug/ml	
Antiproliferant	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. Am J Chin Med, 31(1):37-46.
Antiprostaglandin	
Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. Phytochemistry. 36(3): 579-583. 1994.
Antiradicular 1/3 quercetin	
Antiradicular 30 mM	
Antiradicular IC50=32-35 uM	
Antiseptic	
Antispasmodic EC50=3.4-15 uM	Phytotherapy Research, 4: 73.
Antistaphylococcic	
Antistomatitic	Economic & Medicinal Plant Research, 5: 207.
Antisunburn	
Antithiamin	Phenolic Compounds in Food and Their Effects on Health, 69.
Antithyroid	Jim Duke's personal files.

Antitumor 200 ppm diet orl mus	
Antitumor (Skin)	
Antitumor-Promoter IC42=10 uM	Cancer Research, 48: 5941.
Antiulcerogenic	
Antivaccinia	Economic & Medicinal Plant Research, 5: 207.
Antiviral IC50=62.5 ug/ml	
Anxiolytic	
CNS-Active	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
COX-2-Inhibitor IC32=100 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic 2% (diet)	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Clastogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Co-carcinogenic	
Collagen-Sparing	
Cytoprotective	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Cytotoxic TC50=200 ug/ml	
DNA-Active	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
DNA-Protective	
Diuretic	Wichtl, M. 1984. Teedrogen. Ein Handbuch fur Apotheker und Arzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Fungicide MIC=0.4 mg/ml	
Hepatocarcinogenic 400 ppm diet orl mus (in the absence of alcohol)	
Hepatoprotective	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 210.
Hepatotropic	
Histamine-Inhibitor	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in Achillea millefolium L. (Asteraceae). Economic Botany 48(2): 111-120, 1994.
Leukotriene-Inhibitor	
Lipoxygenase-Inhibitor IC27=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Lipoxygenase-Inhibitor IC50=62-148 uM	
Lyase-Inhibitor IC50=94-164 uM	
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. Phenolic Compounds in Food and Their Effects on Health, Ch.25.
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Pesticide	
Prooxidant	
Prostaglandigenic	
Sedative 500 mg	
Sunscreen IC50=2.5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Sunscreen IC91=5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Sunscreen IC98=25 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Tumorigenic	Jim Duke's personal files.
Vulnerary	
Xanthine-Oxidase-Inhibitor IC50=39.21 uM	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livinston, Edinburgh.

CATECHOL-TANNINS	Bark	--	80000.0	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
------------------	------	----	---------	---

CHLOROGENIC-ACID	Leaf	--	--	*
------------------	------	----	----	---

#### Activities (77)

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

AntiEBV	Economic & Medicinal Plant Research, 6: 189.
AntiHIV	Economic & Medicinal Plant Research, 6: 189.
AntiLegionella	
Antiatherosclerotic	
Antibacterial	
Anticancer (Colon)	
Anticancer (Forestomach)	
Anticancer (Liver)	
Anticancer (Skin)	
Anticarcinogenic	
Antidiabetic	
Antifeedant	
Antigenotoxic	
Antigonadotropic	Jim Duke's personal files.
Antihemolytic 10 uM	Ohnishi, M., Morishita, H., Iwashashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antihepatotoxic	
Antiherpetic	Economic & Medicinal Plant Research, 5: 194.
Antihistaminic	
Antihypercholesterolemic	Economic & Medicinal Plant Research, 6: 189.
Antihyperthyroid	
Antiinflammatory	Hagerman, A.E. Tannin-Protein Interactions. <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.19.
Antileukotriene	
Antimelanogenic	
Antimutagenic	
Antinitrosaminic	
Antioxidant IC53=200 ppm	Huang, M-T., and Ferraro, T. <i>Phenolic Compounds in Food and Cancer Prevention</i> . <i>Phenolic Compounds in Food and Their Effects on Health</i> , Ch.2 p.21.
Antioxidant IC80=12 uM	
Antioxidant IC50=54.2 uM	
Antiperoxidant IC50=36 uM	<i>Planta Medica</i> , 57: A54, 1991.
Antipolio	Jim Duke's personal files.
Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwashashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antiradicular 9 x quercetin	
Antiseptic	
Antisunburn	
Antithyroid	Jim Duke's personal files.
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antitumor (Colon)	
Antitumor (Forestomach)	
Antitumor (Liver)	
Antitumor (Skin)	
Antitumor-Promoter IC25=10 uM	
Antiulcer	Economic & Medicinal Plant Research, 6: 189.
Antiviral	Vlietinck, A.J. and Dommissse, 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 Cav. cv.</i> ) Heavenly Blue Seeds. <i>J. Agric. Food Chem.</i> 38: 805-808.
Collagen-Sparing	
Diuretic	
Fungicide	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture</i> . Plenum Press, New York. 445 pp.
Hepatoprotective	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.
Histamine-Inhibitor	
Hypoglycemic	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in <i>Achillea millefolium</i> L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.
Interferonogenic	Economic & Medicinal Plant Research, 1: 124.
Juvabional	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvostat	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.



Leukotriene-Inhibitor				
Lipoxygenase-Inhibitor 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				

CHRYSANTHEMIN	Leaf	--	--	*
CHRYSAZIN	Tissue Culture	--	--	*

#### Activities (5)

Calcium-Antagonist				
Cathartic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.			
Immunosuppressant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.			
Topoisomerase-II-Inhibitor 1 mM	Muller, S. O., Eckert, I., Lutz, W. K., Stopper, H. 1996. Genotoxicity of the Laxative Drug Components Emodin, Aloe-emodin and Danthron in Mammalian Cells: Topoisomerase II Mediated? <i>Mutat Res</i> , 371: 165-173.			
Topoisomerase-II-Inhibitor IC50=61 uM/ml	Mueller, S. O., Stopper, H. 1999. Characterization of the Genotoxicity of Anthraquinones in Mammalian Cells. <i>Biochimica &amp; Biophysica Acta</i> , 1428: 406-414.			

CINCHONAIN-IA	Bark	--	396.0	*
CINCHONAIN-IB	Bark	--	836.0	*
CINCHONAIN-IC	Bark	--	44.0	*
CINCHONAIN-ID	Bark	--	51.0	*
CINCHONAIN-IIA	Bark	--	327.0	*
CINCHONAIN-IIB	Bark	--	291.0	*

#### Activities (3)

Antiherpetic	Economic & Medicinal Plant Research, 5: 194.			
Antiviral	Economic & Medicinal Plant Research, 5: 194.			
Pesticide				

CINCHONAIN-III-B	Bark	--	--	Takechi, M., Tanaka, Y., Takehara, M., Nonaka, G. I., Nishioka, I. 1985. Structure and Antiherpetic Activity Among the Tannins. <i>Phytochemistry</i> 24 10: 2245-2250.
------------------	------	----	----	---

#### Activities (3)

Antiherpetic	Economic & Medicinal Plant Research, 5: 194.			
Antiviral	Economic & Medicinal Plant Research, 5: 194.			
Pesticide				

CINCHONAMINE	Stem	--	--	*
--------------	------	----	----	---

#### Activities (1)

Amebicide	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture.</i> Plenum Press, New York. 445 pp.			
-----------	---	--	--	--

CINCHONAMINE	Tissue Culture	--	--	*
--------------	-------------------	----	----	---

#### Activities (1)

Amebicide	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture.</i> Plenum Press, New York. 445 pp.			
-----------	---	--	--	--

CINCHONAMINONE	Bark	--	13014.0	*
CINCHONICINOL	Bark	--	9589.0	*
CINCHONIDINE	Leaf	--	2200.0	*

Activities (6)					
Antiflu					
Antiherpetic					
Antimalarial 150-500 mg/man/4 x day					
Antipyretic					=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antiviral					
Pesticide					

CINCHONIDINE	Shoot	--	600.0		*
--------------	-------	----	-------	--	---

Activities (6)					
Antiflu					
Antiherpetic					
Antimalarial 150-500 mg/man/4 x day					
Antipyretic					=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antiviral					
Pesticide					

CINCHONIDINE	Stem	--	--		*
--------------	------	----	----	--	---

Activities (6)					
Antiflu					
Antiherpetic					
Antimalarial 150-500 mg/man/4 x day					
Antipyretic					=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antiviral					
Pesticide					

CINCHONIDINE	Root	--	1000.0		*
--------------	------	----	--------	--	---

Activities (6)					
Antiflu					
Antiherpetic					
Antimalarial 150-500 mg/man/4 x day					
Antipyretic					=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antiviral					
Pesticide					

CINCHONIDINE	Bark	--	25600.0	-1.0	*
--------------	------	----	---------	------	---

Activities (6)					
Antiflu					
Antiherpetic					
Antimalarial 150-500 mg/man/4 x day					
Antipyretic					=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antiviral					
Pesticide					

CINCHONININE	Bark	--	28767.0		*
--------------	------	----	---------	--	---

CINCHONININE	Shoot	--	1000.0		*
--------------	-------	----	--------	--	---

CINCHONININE	Stem	--	--		*
--------------	------	----	----	--	---

CINCHONININE	Root	--	2700.0		*
--------------	------	----	--------	--	---

CINCHONININE	Leaf	--	--		*
--------------	------	----	----	--	---

CINCHONINONE	Stem	--	--		*
--------------	------	----	----	--	---

CUPREINE	Bark	--	--		*
----------	------	----	----	--	---

CYANIDIN-3-O-ALPHA-L-RHAMNOSIDE	Leaf	--	--		*
DIHYDROCINCHONIDINE	Stem	--	--		*
DIHYDROCINCHONIDINE	Tissue Culture	--	--		*
DIHYDROCINCHONINE	Stem	--	--		*
DIHYDROCINCHONINE	Tissue Culture	--	--		*
DIHYDROQUINIDINE	Leaf	--	--		*
<b>Activities (2)</b>					
Antimalarial					
Pesticide					
DIHYDROQUINIDINE	Stem	--	52.0		*
<b>Activities (2)</b>					
Antimalarial					
Pesticide					
DIHYDROQUININE	Stem	--	--		*
DIHYDROQUININE	Leaf	--	--		*
DIHYDROXY-2-METHYL-ANTHRAQUINONE	Tissue Culture	--	--		*
DIHYDROXY-DIMETHOXY-ANTHRAQUINONE	Tissue Culture	--	--		*
DIHYDROXY-TRIMETHOXY-ANTHRAQUINONE	Tissue Culture	--	--		*
EO	Bark	--	50.0	-0.96	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
HYDROQUININE	Tissue Culture	--	--		*
<b>Activities (1)</b>					
Depigmentor					
Merck 11th Edition					
HYPEROSIDE	Leaf	--	--		*

**Activities (30)**

Aldose-Reductase-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Analgesic	
Antiaging	
Antibacterial MIC=250-500 ug/ml	Planta Medica, 57: A43, 1991.
Anticancer	
Anticapillary-Fragility	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.
Antidermatitic	
Antielastase IC50=0.15 ug/ml	
Antiflu	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
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.
Antiinflammatory 1/4 indomethacin	Planta Medica, 57: A131, 1991.
Antiischemic	
Antinociceptive	
Antioxidant IC50=4.6 uM	
Antiradicular	
Antitussive	
Antiviral	
Antiwrinkle	
Calcium-Antagonist	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Capillarifortificant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Capillarigenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cyclooxygenase-Activator 100 uM	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.
Diuretic	
Hepatoprotective IC80=30 ug/ml	Mayumi Ito (nee Someya), et al. 1990. Hepatoprotective Compounds from Canarium album and Euphorbia nematocypa. Chem. Pharm. Bull. 38(8): 2201-2203, 1990.
Hypotensive ivn dog	
Pesticide	
Tissue-Thromboplastin-Inhibitor IC50=20.8 uM	
Xanthine-Oxidase-Inhibitor	
cAMP-Inhibitor IC50=0.14 mg/ml	Schussler, M., Fricke, U., Nikolov, N., and Holzl, J. 1991. Comparison of the Flavonoids Occurring in Crataegus species and Inhibition of 3',5'-Cyclic Adenosine Monophosphate Phosphodiesterase. Plant Medica 57: Suppl Issue 2. p.A-133.

METHYLSUCCIRUBINE	Bark	--	--		*
NICOTIFLOROSIDE	Leaf	--	--		*
PROANTHOCYANIDIN-A-2	Bark	--	11.0	1.0	*
PROANTHOCYANIDIN-B2	Bark	--	691.0	1.0	*
PROANTHOCYANIDIN-B5	Bark	--	182.0	1.0	*
PROANTHOCYANIDIN-C1	Bark	--	36.0	-1.0	*
PROCATÉCHUIC-ACID	Leaf	--	--		*

**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	Lamiknra, 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.

PURPURIN      Tissue --      --      \*

                  Culture

**Activities (2)**

Dye	Merck 11th Edition
Quinone-Reductase-Inducer IC50>50.7 uM	

PURPURIN-1-METHYL-ETHER      Tissue --      --      \*

  Culture

**Activities (2)**

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

QUERCETIN-3-O-ALPHA-L-RHAMNO-GLUCOSIDE	Leaf	--	--	*
QUINAMINE	Leaf	--	--	*
QUINAMINE	Tissue Culture	--	--	*
QUINAMINE	Stem	--	--	*
QUINIDINE	Shoot	--	100.0	*

**Activities (23)**

Abortifacient

Allergenic

Amebicide IC50=16.6 ug/ml Nigg, H.N. and Seigler, D.S., eds. 1992. *Phytochemical Resources for Medicine and Agriculture*. Plenum Press, New York. 445 pp.

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

Antiarrhythmic 72 mg/kg ipr mus

Antiarrhythmic ED50=60 uM/kg Neuwinger, H. D. 1996. *African Ethnobotany - Poisons and Drugs*. Chapman & Hall, New York. 941 pp.

Anticholinergic Martindale's 28th

Antihiccup

Antimalarial 10 mg/kg/orl/man/8 hrs Martindale's 29th

Antipyretic =ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp.;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp

Antitachycardic

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

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

Dermatitogenic

Emetic

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

Hypotensive Martindale's 29th

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

Laxative Martindale's 29th

MDR-Inhibitor 100 uM Critchfield, J. W., Welsh, C. J., Phang, J. M., Yeh, G. C. 1994. Modulation of Adriamycin Accumulation and Efflux by Flavonoids in HCT-15 Colon Cells. Activation of P-Glycoprotein as a Putative Mechanism. *Biochem Pharmacol*, 48(7): 1437-1445.

MDR-Inhibitor IC50=1-12 uM

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

Oxytotic

QUINIDINE	Leaf	--	400.0	*
-----------	------	----	-------	---

**Activities (23)**

Abortifacient	
Allergenic	
Amebicide IC50=16.6 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Analgesic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Antiarrhythmic 72 mg/kg ipr mus	
Antiarrhythmic ED50=60 uM/kg	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Anticholinergic	Martindale's 28th
Antihiccup	
Antimalarial 10 mg/kg/orl/man/8 hrs	Martindale's 29th
Antipyretic	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antitachycardic	
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardiodepressant	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Dermatitogenic	
Emetic	
Hemolytic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Hypotensive	Martindale's 29th
Immunosuppressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	Martindale's 29th
MDR-Inhibitor 100 uM	Critchfield, J. W., Welsh, C. J., Phang, J. M., Yeh, G. C. 1994. Modulation of Adriamycin Accumulation and Efflux by Flavonoids in HCT-15 Colon Cells. Activation of P-Glycoprotein as a Putative Mechanism. Biochem Pharmacol, 48(7): 1437-1445.
MDR-Inhibitor IC50=1-12 uM	
Myorelaxant	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Oxytocic	

**QUINIDINE**

Stem

--

48.0

\*

**Activities (23)**

Abortifacient	
Allergenic	
Amebicide IC50=16.6 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Analgesic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Antiarrhythmic 72 mg/kg ipr mus	
Antiarrhythmic ED50=60 uM/kg	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Anticholinergic	Martindale's 28th
Antihiccup	
Antimalarial 10 mg/kg/orl/man/8 hrs	Martindale's 29th
Antipyretic	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antitachycardic	
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardiodepressant	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Dermatitogenic	
Emetic	
Hemolytic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Hypotensive	Martindale's 29th
Immunosuppressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	Martindale's 29th
MDR-Inhibitor 100 uM	Critchfield, J. W., Welsh, C. J., Phang, J. M., Yeh, G. C. 1994. Modulation of Adriamycin Accumulation and Efflux by Flavonoids in HCT-15 Colon Cells. Activation of P-Glycoprotein as a Putative Mechanism. Biochem Pharmacol, 48(7): 1437-1445.
MDR-Inhibitor IC50=1-12 uM	
Myorelaxant	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Oxytocic	

**QUINIDINE**

Root

--

500.0

\*

**Activities (23)**

Abortifacient	
Allergenic	
Amebicide IC50=16.6 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Analgesic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Antiarrhythmic 72 mg/kg ipr mus	
Antiarrhythmic ED50=60 uM/kg	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Anticholinergic	Martindale's 28th
Antihiccup	
Antimalarial 10 mg/kg/orl/man/8 hrs	Martindale's 29th
Antipyretic	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antitachycardic	
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardiodepressant	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Dermatitogenic	
Emetic	
Hemolytic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Hypotensive	Martindale's 29th
Immunosuppressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	Martindale's 29th
MDR-Inhibitor 100 uM	Critchfield, J. W., Welsh, C. J., Phang, J. M., Yeh, G. C. 1994. Modulation of Adriamycin Accumulation and Efflux by Flavonoids in HCT-15 Colon Cells. Activation of P-Glycoprotein as a Putative Mechanism. Biochem Pharmacol, 48(7): 1437-1445.
MDR-Inhibitor IC50=1-12 uM	
Myorelaxant	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Oxytotic	

**QUINIDINE**

Bark -- -- \*

**Activities (23)**

Abortifacient	
Allergenic	
Amebicide IC50=16.6 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Analgesic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Antiarrhythmic 72 mg/kg ipr mus	
Antiarrhythmic ED50=60 uM/kg	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Anticholinergic	Martindale's 28th
Antihiccup	
Antimalarial 10 mg/kg/orl/man/8 hrs	Martindale's 29th
Antipyretic	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Antitachycardic	
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cardiodepressant	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Dermatitogenic	
Emetic	
Hemolytic	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Hypotensive	Martindale's 29th
Immunosuppressant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	Martindale's 29th
MDR-Inhibitor 100 uM	Critchfield, J. W., Welsh, C. J., Phang, J. M., Yeh, G. C. 1994. Modulation of Adriamycin Accumulation and Efflux by Flavonoids in HCT-15 Colon Cells. Activation of P-Glycoprotein as a Putative Mechanism. Biochem Pharmacol, 48(7): 1437-1445.
MDR-Inhibitor IC50=1-12 uM	
Myorelaxant	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.
Oxytotic	

**QUINIDINONE**

Stem -- -- \*



**Activities (2)**

Antimalarial IC50=4.7 ug/ml Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.  
 Cytotoxic IC50=17.7 ug/ml Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.

QUININE Bark 21800.0 65753.0 1.0 \*

**Activities (32)**

Abortifacient  
 Allergenic  
 Amebicide IC50=14.8 ug/ml  
 Analgesic Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.  
 Anesthetic Wealth of India.  
 Antibacterial  
 Antidysenteric  
 Antifeedant  
 Antifibrillary Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  
 Antihemorrhoidal Wealth of India.  
 Antilumbagic Wealth of India.  
 Antimalarial IC50=0.18 ug/ml Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.  
 Antineuralgic Wealth of India.  
 Antineuritic Wealth of India.  
 Antipyretic Merck 11th Edition  
 Antisciatric Wealth of India.  
 Antitrypanosomic  
 Antiyeast  
 Apertif  
 Astringent  
 Cardiodepressant Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.  
 Cytotoxic IC50=183 ug/ml Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.  
 Dermatitigenic  
 FLavor FEMA 5-83 (-100) Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  
 MDR-Inhibitor IC50=4-17 uM  
 Oxytocic  
 Pesticide  
 Phototoxic  
 Protisticide  
 Spermicide Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  
 Stomachic Merck 11th Edition  
 Trypanocide

QUININE Leaf 400.0 9200.0 \*

**Activities (32)**

Abortifacient	
Allergenic	
Amebicide IC50=14.8 ug/ml	
Analgesic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Anesthetic	Wealth of India.
Antibacterial	
Antidysenteric	
Antifeedant	
Antifibrillary	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antihemorrhoidal	Wealth of India.
Antilumbagic	Wealth of India.
Antimalarial IC50=0.18 ug/ml	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antineuralgic	Wealth of India.
Antineuritic	Wealth of India.
Antipyretic	Merck 11th Edition
Antisciatic	Wealth of India.
Antitrypanosomic	
Antiyeast	
Apertif	
Astringent	
Cardiodepressant	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Cytotoxic IC50=183 ug/ml	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Dermatitigenic	
FLavor FEMA 5-83 (-100)	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
MDR-Inhibitor IC50=4-17 uM	
Oxytotic	
Pesticide	
Phototoxic	
Protisticide	
Spermicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Stomachic	Merck 11th Edition
Trypanocide	

QUININE

Root

--

1300.0

\*

**Activities (32)**

Abortifacient	
Allergenic	
Amebicide IC50=14.8 ug/ml	
Analgesic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Anesthetic	Wealth of India.
Antibacterial	
Antidysenteric	
Antifeedant	
Antifibrillary	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antihemorrhoidal	Wealth of India.
Antilumbagic	Wealth of India.
Antimalarial IC50=0.18 ug/ml	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antineuralgic	Wealth of India.
Antineuritic	Wealth of India.
Antipyretic	Merck 11th Edition
Antisciatic	Wealth of India.
Antitrypanosomic	
Antiyeast	
Apertif	
Astringent	
Cardiodepressant	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Cytotoxic IC50=183 ug/ml	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Dermatitigenic	
FLavor FEMA 5-83 (-100)	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
MDR-Inhibitor IC50=4-17 uM	
Oxytotic	
Pesticide	
Phototoxic	
Protisticide	
Spermicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Stomachic	Merck 11th Edition
Trypanocide	

QUININE

Stem

--

112.0

\*

**Activities (32)**

Abortifacient	
Allergenic	
Amebicide IC50=14.8 ug/ml	
Analgesic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Anesthetic	Wealth of India.
Antibacterial	
Antidysenteric	
Antifeedant	
Antifibrillary	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antihemorrhoidal	Wealth of India.
Antilumbagic	Wealth of India.
Antimalarial IC50=0.18 ug/ml	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Antineuralgic	Wealth of India.
Antineuritic	Wealth of India.
Antipyretic	Merck 11th Edition
Antisciatic	Wealth of India.
Antitrypanosomic	
Antiyeast	
Apertif	
Astringent	
Cardiodepressant	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Cytotoxic IC50=183 ug/ml	Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.
Dermatitigenic	
FLavor FEMA 5-83 (-100)	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
MDR-Inhibitor IC50=4-17 uM	
Oxytotic	
Pesticide	
Phototoxic	
Protisticide	
Spermicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Stomachic	Merck 11th Edition
Trypanocide	

QUININE

Shoot

--

700.0

\*

**Activities (32)**

Abortifacient

Allergenic

Amebicide IC50=14.8 ug/ml

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

Anesthetic Wealth of India.

Antibacterial

Antidysenteric

Antifeedant

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

Antihemorrhoidal Wealth of India.

Antilumbagic Wealth of India.

Antimalarial IC50=0.18 ug/ml Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.

Antineuralgic Wealth of India.

Antineuritic Wealth of India.

Antipyretic Merck 11th Edition

Antisciatic Wealth of India.

Antitrypanosomic

Antiyeast

Apertif

Astringent

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

Cytotoxic IC50=183 ug/ml Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.

Dermatitogenic

FLavor FEMA 5-83 (-100) Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry

MDR-Inhibitor IC50=4-17 uM

Oxytotic

Pesticide

Phototoxic

Protisticide

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

Stomachic Merck 11th Edition

Trypanocide

QUINOVIC-ACID	Bark	--	--	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
---------------	------	----	----	---

**Activities (3)**

Antiinflammatory

Carcinostatic

Choleretic Fitoterapia No.5-1986.

QUINOVIC-ACID	Stem	--	--	*
---------------	------	----	----	---

**Activities (3)**

Antiinflammatory

Carcinostatic

Choleretic Fitoterapia No.5-1986.

QUINOVIC-ACID-3-O-ALPHA-L-RHAMNOSIDE	Stem	--	130.0	*
--------------------------------------	------	----	-------	---

RUBIADIN	Tissue Culture	--	--	*
----------	----------------	----	----	---

**Activities (1)**

Molluscicide 10 ppm

SUCCIRUBINE	Bark	--	--	*
-------------	------	----	----	---