Biological Activities for Extracts of Picao preto *(Bidens pilosa)*

IN VIVO RESEARCH

Part - Origin	Activity Tested For	Type Extract	Model	Dosage	Result	Notes/Organism tested	Ref #
Root Rwanda	Toxic Effect (general)	MEOH Ext	IP Mouse	1.0 gm/kg	Inactive		T08870
Stem Rwanda	Toxic Effect (general)	MEOH Ext	IP Mouse	1.0 gm/kg	Inactive		T08870
Stem Rwanda	Uterine Stimulant Effect	MEOH Ext	Guinea Pig	500.0 mcg/ml	Weak Activity	Uterus (non-preg).	T08870
Root Rwanda	Uterine Stimulant Effect	MEOH Ext	Guinea Pig	500.0 mcg/ml	Weak Activity	Uterus (non-preg).	T08870
Leaf Rwanda	Uterine Stimulant Effect	MEOH Ext	Guinea Pig	500.0 mcg/ml	Weak Activity	Uterus (non-preg).	T08870
Leaf USA	Carcinogenic Activity	Leaves	PO Rat	50.0 gm/kg	Weak Activity	Animals were given 3 weekly IP injections of 25 mg methyl-n-amylnitrosamine. Incidence of esophageal tumors was measured.	T09444
Leaf South Africa	Carcinogenic Activity	Leaf	PO Rat	50 g/kg	Active Inactive	Increased esophageal papilloma induced by methyl-n-amylnitrosamine. Did not induce tumors without the chemical stimulus methyl-n-amylnitrosamine.	AE1012
Not Stated Taiwan	Hepatoprotective Activity	Not Stated	PORat	Not stated	Active	Protected against CCl4- and acetaminophen-induced acute hepatic lesions. Reduced the increase in SGOT and SGPT.	AE1008
Entire Plant Brazil	Antimalarial Activity	BuOH Ext CHCl3 Ext ETOAC Ext ETOH(100%)Ext	Not Stated Mouse Mouse Not Stated	50.0 mcg/ml 1000 mg/kg 50.0 mcg/ml 1000 mg/kg	Weak Activity Equivocal Weak Activity Equivocal	*Plasmodium falciparum*	L15922
Leaf Brazil	Antimalarial Activity	BuOH Ext BuOH Ext CHCl3 Ext Ether Ext ETOH(100%)Ext	Not Stated Mouse Not Stated Not Stated Not Stated	50.0 mcg/ml 1000 mg/kg 50.0 mcg/ml 50.0 mcg/ml 50.0 mcg/ml	Weak Activity Equivocal Active Inactive Weak Activity	*Plasmodium falciparum*	L15922

GI = Gastric Intubation IG = Intragastric PO = Oral IP = Intraperitoneally IV = Intravenously SC = Subcutaneously IM = Intramuscular

Part - Origin	Activity Tested For	Type Extract	Model	Dosage	Result	Notes/Organism tested	Ref #
Root Brazil	Antimalarial Activity	BuOH Ext CHCl3 Ext Fraction Ext Ether Ext ETOH(100%)Ext ETOH(100%)Ext H2O Ext	Not Stated Not Stated Not Stated Not Stated Not Stated Mouse Not Stated	50.0 mcg/ml 50.0 mcg/ml 50.0 mcg/ml 50.0 mcg/ml 50.0 mcg/ml 1000 mg/kg 50.0 mcg/ml	Active Active Weak Activity Inactive Active Inactive Weak Activity	*Plasmodium falciparum*	L15922
Stem Brazil	Antimalarial Activity	CHCl3 Ext CHCl3 Ext ETOH(100%)Ext Ether Ext	Not Stated Mouse Mouse Not Stated	50.0 mcg/ml 1000 mg/kg 1000 mg/kg 50.0 mcg/ml	Weak Activity Inactive Active Inactive	*Plasmodium falciparum*	L15922
Whole Plant Brazil	Antimalarial Activity	ETOH Ext	Mice	1,000 mg/kg	Active	43% reduction in parasitaemia (*Plasmodium berghei*).	AE1006
Root Brazil	Antimalarial Activity	ETOH Ext	Mice	500 mg/kg	Active	Plants were collected in 3 different areas. All 3 plants exhibited a 43-66% reduction in parasitaemia (*Plasmodium berghei*).	AE1006
Entire Plant Mexico	Hypoglycemic Activity	H2O Ext	Oral Rabbit	4.0 mg/kg	Equivocal	vs. glucose-induced hyperglycemia.	L03570
Entire Plant Mexico	Hypoglycemic Activity	H2O Ext	GI Mouse IP Mouse	Not stated Not stated	Active Active	vs. alloxan-induced hyperglycemia.	T08848
Entire Plant Egypt	Hypoglycemic Activity	CHCl3 Ext ETOAC Ext H2O Ext	IP Rat IP Rat IP Rat	400.0 mg/kg 400.0 mg/kg 400.0 mg/kg	Inactive Active Active	vs. alloxan-induced hyperglycemia.	K08651
Aerial Parts USA	Hypoglycemic Activity	ETOH(90%)Ext	PO Mouse	1.0 gm/kg	Active		L08341
Leaf Cameroon	Hypoglycemic Activity	MEOH Ext	IP Rat	Not stated	Active	Reduced elevated plasma insulin levels induced by high-fructose diet.	AE1004
Not Stated Mexico	Hypoglycemic Activity	H2O-ETOH Ext	IP Mice	Not Stated	Active	Reduced glycemia in healthy mice by 13.8% after 240 minutes.	AE1005
Not Stated Mexico	Hypoglycemic Activity	H2O-ETOH Ext	IP Mice	Not Stated	Active	Reduced glycemia in alloxan-diabetic mice by 22.7% at 240 minutes.	AE1005
Leaf Cameroon	Hypoglycemic Activity	H2O Ext CH2Cl2 Ext	Oral Rat	150-350 mg/kg 150-300 mg/kg	Inactive Inactive	No effect on plasma insulin and glucose in rats fed high-fructose diets.	L15529

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Entire Plant Egypt	Hyperglycemic Activity	PetroleumExt	IP Rat	400.0 mg/kg	Active	The hyperglycemic effect of alloxan was enhanced 39% with treatment. vs. alloxan-induced hyperglycemia.	K08651
Leaf Cameroon	Hypotensive Activity	H2O Ext CH2Cl2 Ext	PO Rat	150-350 mg/kg 150-300 mg/kg	Active Active	Reversed high blood pressure induced by high-fructose diets.	L15529
Leaf Cameroon	Hypotensive Activity	MEOH Ext	PO Rat	75.0 mg/kg 75.0 mg/kg Not Stated	Active Active Weak Activity	In spontaneously hypertensive rats. In salt-loading hypertensive rats. In normotensive rats. No changes in heart rate and urine volume.	L05008
Leaf Cameroon	Hypotensive Activity	MEOH Ext	PO Rat	Not stated	Active	Prevented hypertension induced by high-fructose diets and lowered elevated blood pressure levels.	AE1004
Leaf Rwanda	Hypertensive Activity	MEOH Ext	IV Rabbit	5.0 mg/kg	Inactive		T08870
Leaf Rwanda	Hypotensive Activity	MEOH Ext	IV Rabbit	5.0 mg/kg	Inactive		T08870
Leaf Cameroon	Hypotensive Activity	MEOH Ext	PO Rat	75.0 mg/kg	Equivocal		L05008
Root Rwanda	Hypotensive Activity	MEOH Ext	IV Rabbit	5.0 mg/kg	Active		T08870
Stem Rwanda	Hypotensive Activity	MEOH Ext	IV Rabbit	5.0 mg/kg	Active		T08870
Leaf Cameroon	Hypotriglycerdemic Activity	H2O Ext CH2Cl2 Ext	PO Rat	150-350 mg/kg 150-300 mg/kg	Active Active	Reversed hypertriglyceridemia induced by high-fructose diets.	L15529
Leaf Cameroon	Hypocholesterolemic Activity	H2O Ext CH2Cl2 Ext	PO Rat	150-350 mg/kg 150-300 mg/kg	Inactive Inactive	Plasma cholesterol levels increased slightly.	L15529
Leaf Cameroon	Creatinine Lowering Effect	H2O Ext CH2Cl2 Ext	PO Rat	150-350 mg/kg 150-300 mg/kg	Active Active	Reduced plasma creatinine in rats fed high-fructose diets.	L15529
Leaf Brazil	Anti-inflammatory Activity	MEOH Ext	IP Mouse	10.0 mg	Active	vs. zymosan-induced pedal edema.	L04335
Leaf Brazil	Anti-inflammatory Activity	MEOH Ext	IP Mice	10 mg	Active Active	Reduce the size of the popliteal lymph node after inflammation induced by zymosan. Reduced foot pad inflammation induced by zymosan.	L04335

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Not Stated Taiwan	Anti-inflammatory Activity	H2O Ext	IM Rat	150 mg/kg 300 mg/kg 500 mg/kg	Active Active Active	vs. paw edema induced by carrageenan. vs. paw edema induced by carrageenan. vs. chronic arthritis induced by complete Freund's adjunvant.	AE1011
Entire Plant Cuba	Antiulcer Activity	ETOH(100%)Ext	PO Rat	0.5 gm/kg 0.5 gm/kg 2 gm/kg	Active Active Active	vs. indomethacin-induced ulcers. vs. 80% ethanol-induced ulcers. Inhibited hemorrhagic lesions induced by ethanol.	L06781
Leaf Cameroon	Antiulcer Activity	CH2Cl2 Ext CH2Cl2 Ext CH2Cl2 Ext CH2Cl2 Ext Cyclohexane MEOH Ext	PO Rat	1000 mg/kg 750.0 mg/kg 750.0 mg/kg 750.0 mg/kg 1000 mg/kg 1000 mg/kg	Inactive Active Inactive Inactive Active Active	vs. pylorus ligation-induced ulcers. vs. HCl/ethanol-induced gastric ulcers. vs. 80% ethanol-induced ulcers. vs. pylorus ligation-induced ulcers. vs. HCl/ethanol-induced gastric ulcers. vs. HCl/ethanol-induced gastric ulcers.	L12395
Leaf + Stem Cuba	Antiulcer Activity	H2O Ext	GI Rat	Not stated	Active		T11836
Entire Plant Cuba	Antisecretory Effect	ETOH(100%)Ext	IP Rat	0.5 gm/kg	Active	Decreased the gastric juice volume, acid secretion and pepsin secretion. vs. pylorus ligation.	L06781
Leaf Rwanda	Skeletal Muscle Relaxant Effect	MEOH Ext	Toad	500 mcg/ml	Inactive	Muscle (rectus abdominus).	T08870
Root Rwanda	Skeletal Muscle Relaxant Effect	MEOH Ext	Toad	500 mcg/ml	Inactive	Muscl e(rectus abdominus).	T08870
Stem Rwanda	Skeletal Muscle Relaxant Effect	MEOH Ext	Toad	500 mcg/ml	Inactive	Muscle (rectus abdominus).	T08870
Leaf Rwanda	Skeletal Muscle Stimulant Activity	MEOH Ext	Toad	500.0 mcg/ml	Inactive	Muscle (rectus abdominus).	T08870
Leaf Rwanda	Smooth Muscle Stimulant Activity	MEOH Ext	Guinea Pig	500.0 mcg/ml	Inactive	Ileum.	T08870
Root Rwanda	Skeletal Muscle Stimulant Activity	MEOH Ext	Toad	500.0 mcg/ml	Inactive	Muscle (rectus abdominus).	T08870
Stem Rwanda	Smooth Muscle Stimulant Activity	MEOH Ext	Guinea Pig	500.0 mcg/ml	Inactive	Ileum.	T08870

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Root Rwanda	Smooth Muscle Stimulant Activity	MEOH Ext	Guinea Pig	500.0 mcg/ml	Inactive	Ileum.	T08870
Stem Rwanda	Skeletal Muscle Stimulant Activity	MEOH Ext	Toad	500.0 mcg/ml	Inactive	Muscle(rectus abdominus).	T08870
Leaf Rwanda	Smooth Muscle Relaxant Activity	MEOH Ext	Guinea Pig	500 mcg/ml	Inactive	Ileum.	T08870
Stem Rwanda	Smooth Muscle Relaxant Activity	MEOH Ext	Guinea Pig	500 mcg/ml	Inactive	Ileum.	T08870
Root Rwanda	Smooth Muscle Relaxant Activity	MEOH Ext	Guinea Pig	500 mcg/ml	Inactive	Ileum.	T08870
Leaf Cameroon	Smooth Muscle Relaxant Activity	H2O Ext	Rat aorta	8.0 mg/ml	Active Active	vs. calcium-induced contractions. vs. norepinephrine-induced contractions.	J19693
Aerial Parts Japan	Radioprotective Effect	MEOH Ext	IP Mouse	1000 mg/kg	Active	vs. radiation-induced skin injury.	K29839
Not Stated Nigeria	Neurotoxin Inhibiting Activity	Not Stated	Mice	Not stated	Active	Potentiated the antivenom Ipser Afrique which is used against two deadly venoms - Dendroaspis jamesoni (neurotoxin containing venom) and Echis oceliatus.	AE1007

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IN VITRO RESEARCH

Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Entire Plant Egypt	Antibacterial Activity	CHCl3 Ext CHCl3 Ext CHCl3 Ext CHCl3 Ext CHCl3 Ext CHCl3 Ext ETOAC Ext ETOAC Ext ETOAC Ext ETOAC Ext ETOAC Ext ETOAC Ext ETOH(95%)Ext ETOH(95%)Ext ETOH(95%)Ext ETOH(95%)Ext ETOH(95%)Ext ETOH(95%)Ext Petroleum Petroleum Petroleum Petroleum Petroleum Petroleum	Agar Plate	30.0 mcg	Active Active Inactive Inactive Inactive Inactive Active Active Active Active Active Inactive Active Active Active Active Inactive Inactive Active Active Active Active Inactive Inactive	*Bacillus subtilis* *Sarcina lutea* *Escherichia coli* *Neisseria gonorrhea* *Pseudomonas aeruginosa* *Staphylococcus aureus* *Bacillus subtilis* *Neisseria gonorrhea* *Pseudomonas aeruginosa* *Sarcina lutea* *Staphylococcus aureus* *Escherichia coli* *Bacillus subtilis* *Pseudomonas aeruginosa* *Sarcina lutea* *Staphylococcus aureus* *Escherichia coli* *Neisseria gonorrhea* *Neisseria gonorrhea* *Pseudomonas aeruginosa* *Sarcina lutea* *Staphylococcus aureus* *Bacillus subtilis* *Escherichia coli*	K08651
Leaf South Africa	Antibacterial Activity	H2O Ext H2O Ext H2O Ext MEOH Ext MEOH Ext MEOH Ext	Agar Plate	1.0 mg/ml 1.0 mg/ml 1.0 mg/ml MIC=2.0 mg/ml MIC=4.0 mg/ml MIC=8.0 mg/ml	Inactive Inactive Inactive Equivocal Equivocal Equivocal	*Bacillus subtilis* *Staphylococcus aureus* *Staphylococcus epidermidis* *Staphylococcus aureus* *Bacillus subtilis* *Staphylococcus epidermidis*	L15587
Leaf Trinidad	Antibacterial Activity	Pet ether Ext	Agar Plate	1000 mcg/ml 1000 mcg/ml 1000 mcg/ml 1000 mcg/ml 1000 mcg/ml	Equivocal Inactive Inactive Inactive Inactive	*Staphylococcus aureus* *Escherichia coli* *Salmonella typhimurium* *Staphylococcus epidermidis* *Streptococcus faecalis*	L13922

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Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Entire Plant Papua-New Guinea	Antibacterial Activity	ETOH(100%)Ext	Agar Plate	4.0 mg	Equivocal	*Bacillus subtilis* *Escherichia coli* *Micrococcus roseus* *Salmonella typhi* *Salmonella typhimurium* *Staphylococcus albus* *Staphylococcus aureus* *Staphylococcus epidermidis* *Agrobacterium tumefaciens* *Bacillus cereus* *Bacillus coagulans* *Bacillus megaterium* *Citrobacter freundii* *Enterobacter aerogenes* *Klebsiella pneumoniae* *Lactobacillus casei* *Micrococcus luteus* *Neisseria gonorrhea* *Proteus mirabilis* *Proteus vulgaris* *Pseudomonas aeruginosa* *Serratia marcescens* *Streptococcus faecalis* *Streptococcus pneumoniae*	L18469
Entire Plant Papua-New Guinea	Antibacterial Activity	CH2Cl2 Ext	Agar Plate	4.0 mg	Equivocal	*Agrobacterium tumefaciens* *Bacillus cereus* *Bacillus coagulans* *Bacillus megaterium* *Bacillus subtilis* *Citrobacter freundii* *Enterobacter aerogenes* *Escherichia coli* *Lactobacillus casei* *Micrococcus luteus* *Micrococcus roseus* *Neisseria gonorrhea* *Proteus mirabilis* *Proteus vulgaris* *Pseudomonas aeruginosa* *Salmonella typhi* *Salmonella typhimurium*	L18469

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Part - Origin	Activity Tested For	Type Extract	Model	Dosage	Result	Notes/Organism tested	Ref #
Entire Plant Papua-New Guinea	Antibacterial Activity	CH2Cl2 Ext	Agar Plate	4.0 mg	Equivocal	*Serratia marcescens* *Staphylococcus albus* *Staphylococcus aureus* *Staphylococcus epidermidis* *Streptococcus faecalis* *Streptococcus pneumoniae* *Klebsiella pneumoniae*	L18469
Entire Plant Papua-New Guinea	Antibacterial Activity	ETOAC Ext	Agar Plate	4.0 mg	Equivocal	*Agrobacterium tumefaciens* *Bacillus cereus* *Bacillus coagulans* *Bacillus megaterium* *Bacillus subtilis* *Citrobacter freundii* *Enterobacter aerogenes* *Klebsiella pneumoniae* *Lactobacillus casei* *Micrococcus luteus* *Micrococcus roseus* *Neisseria gonorrhea* *Proteus mirabilis* *Proteus vulgaris* *Pseudomonas aeruginosa* *Salmonella typhi* *Salmonella typhimurium* *Serratia marcescens* *Staphylococcus albus* *Staphylococcus aureus* *Staphylococcus epidermidis* *Streptococcus faecalis* *Streptococcus pneumoniae* *Escherichia coli*	L18469
Entire Plant Papua-New Guinea	Antibacterial Activity	Petrol(gasoline)	Agar Plate	4.0 mg	Equivocal	*Agrobacterium tumefaciens* *Bacillus cereus* *Bacillus coagulans* *Bacillus megaterium* *Bacillus subtilis* *Citrobacter freundii* *Enterobacter aerogenes* *Escherichia coli*	L18469

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Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Entire Plant Papua-New Guinea	Antibacterial Activity	Petrol (gasoline)	Agar Plate	4.0 mg	Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive	*Klebsiella pneumoniae* *Lactobacillus casei* *Micrococcus luteus* *Micrococcus roseus* *Neisseria gonorrhea* *Proteus vulgaris* *Pseudomonas aeruginosa* *Salmonella typhi* *Salmonella typhimurium* *Serratia marcescens* *Staphylococcus albus* *Staphylococcus aureus* *Staphylococcus epidermidis* *Streptococcus faecalis* *Streptococcus pneumoniae* *Proteus mirabilis*	L18469
Leaf Ethiopia	Antibacterial Activity	Acid-ETOH Ext	Agar Plate	0.20 ml	Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity Strong Activity	*Escherichia coli* *Escherichia coli* *Klebsiella pneumoniae* *Klebsiella pneumoniae* *Klebsiella pneumoniae* *Proteus vulgaris* *Proteus vulgaris* *Proteus vulgaris* *Proteus vulgaris* *Pseudomonas aeruginosa* *Salmonella gallinarum* *Salmonella gallinarum* *Salmonella gallinarum* *Salmonella gallinarum* *Staphylococcus albus* *Staphylococcus albus*	K21091
Leaf Ethiopia	Antibacterial Activity	H2O Ext	Agar Plate	0.20 ml	Strong Activity Strong Activity Strong Activity	*Klebsiella pneumoniae* *Proteus vulgaris* *Staphylococcus albus*	K21091
Leaf Ethiopia	Antibacterial Activity	Acid-ETOH Ext	Agar Plate	0.20 ml	Active Active Active Active	*Pseudomonas aeruginosa* *Staphylococcus albus* *Pseudomonas aeruginosa* *Salmonella gallinarum*	K21091

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Leaf Ethiopia	Antibacterial Activity	Acid-ETOH Ext	Agar Plate	0.20 ml	Inactive Inactive	*Escherichia coli* *Klebsiella pneumoniae*	K21091
Flowers Guatemala	Antibacterial Activity	ETOH-H2O (50%) Ext	Agar Plate	50.0 microliters	Inactive	*Escherichia coli* *Salmonella typhosa* *Shigella flexneri*	K24899
Flowers Trinidad	Antibacterial Activity	ETOAC Ext	Agar Plate	1000 mcg/ml	Equivocal Equivocal Inactive Inactive Inactive Inactive	*Salmonella typhimurium* *Staphylococcus aureus* *Escherichia coli* *Pseudomonas aeruginosa* *Staphylococcus epidermidis* *Streptococcus faecalis*	L13922
Leaf Brazil	Antibacterial Activity	ETOH(100%)Ext	Agar Plate	233.0 mg/ml	Inactive	*Bacillus corineforme.* *Citrobacter freundii* *Enterococcus species* *Escherichia coli* *Proteus vulgaris* *Pseudomonas aeruginosa* *Staphylococcus aureus* *Streptococcus hemolyticus* *Streptococcus viridans*	L10331
Leaf Rwanda	Antibacterial Activity	ETOH(80%) Ext	Agar Plate	0.2 ml	Active	*Pseudomonas aeruginosa*	K27812
Leaf Rwanda	Antibacterial Activity	MEOH Ext	Agar Plate	50.0 mg/ml	Active Active Active Inactive	*Bacillus subtilis* *Salmonella gallinarum* *Staphylococcus aureus* *Pseudomonas aeruginosa*	M25480
Leaf Rwanda	Antimycobacterial Activity	ETOH(95%)Ext	Agar Plate	0.1 mg/ml 0.1 mg/ml 0.1 mg/ml 0.5 mg/ml 0.5 mg/ml 0.5 mg/ml 1.0 mg/ml 1.0 mg/ml 1.0 mg/ml	Inactive Inactive Inactive Active Inactive Inactive Active Inactive Inactive	*Mycobacterium avium* *Mycobacterium simiae* *Mycobacterium tuberculosis* *Mycobacterium tuberculosis* *Mycobacterium avium* *Mycobacterium simiae* *Mycobacterium tuberculosis* *Mycobacterium avium* *Mycobacterium simiae*	K17419
Leaf Rwanda	Antimycobacterial Activity	MEOH Ext	Agar Plate	50.0 mg/ml	Active	*Mycobacterium smegmatis*	M25480

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Whole Plant Brazil	Antimalarial Activity	ETOH Ext BuOH Ext	in vitro	50 ug/ml 50 ug/ml	Active Active	90% inhibition of *P. falciparum*. 90% inhibition of *P. falciparum*.	AE1006
Leaf Brazil	Antimalarial Activity	ETOH Ext BuOH Ext CHCl3 Ext	in vitro	50 ug/ml 50 ug/ml 50 ug/ml	Active	90% inhibition of *P. falciparum*. 79% inhibition of *P. falciparum*. 94% inhibition of *P. falciparum*.	AE1006
Root Brazil	Antimalarial Activity	ETOH Ext BuOH Ext CHCl3 Ext ETOH Ext ETOH Ext	in vitro	50 ug/ml 50 ug/ml 50 ug/ml 25 ug/ml 12.5 ug/ml	Active	90% inhibition of *P. falciparum*. 68% inhibition of *P. falciparum*. 86% inhibition of *P. falciparum*. 70% inhibition of *P. falciparum*. 49% inhibition of *P. falciparum*.	AE1006
Stem Brazil	Antimalarial Activity	CHCl3 Ext	in vitro	50 ug/ml	Active	47% inhibition of *P. falciparum*.	AE1006
Stem Brazil	Antimalarial Activity	CHCl3 Ext Ether Ext	Not stated Not stated	50.0 mcg/ml 50.0 mcg/ml	Weak Activity Weak Activity	*Plasmodium falciparum*	J11673
Root Brazil	Antimalarial Activity	BuOH Ext CHCl3 Ext ETOH(95%)Ext Ether Ext	Not stated	50.0 mcg/ml 50.0 mcg/ml 50.0 mcg/ml 50.0 mcg/ml	Weak Activity Inactive Weak Activity Inactive	*Plasmodium falciparum* (90% inhibition).	J11673
Leaf Brazil	Antimalarial Activity	BuOH Ext CHCl3 Ext Ether Ext ETOH(95%)Ext	Not stated	50.0 mcg/ml 50.0 mcg/ml 50.0 mcg/ml 50.0 mcg/ml	Weak Activity Inactive Inactive Weak Activity	*Plasmodium falciparum*	J11673
Entire Plant Brazil	Antimalarial Activity	ETOH(90%)Ext ETOH(95%)Ext	Not stated Not stated	20.0 mcg/ml 50.0 mcg/ml	Active Weak Activity	*Plasmodium falciparum*	J11673
Not stated Kenya	Antimalarial Activity	Decoction Decoction Decoction Decoction	Not stated	IC50=371.0 mcg/ml IC50=480.0 mcg/ml IC50=923.0 mcg/ml IC50=937.0 mcg/ml	Equivocal Equivocal Equivocal Equivocal	*Plasmodium falciparum* vs. chloroquine-resistant strains.	L13602
Not stated Kenya	Antimalarial Activity	ETOH(100%)Ext ETOH(100%)Ext ETOH(100%)Ext	Not stated	IC50=481.0 mcg/ml IC50=55.0 mcg/ml IC50=57.0 mcg/ml	Equivocal Active Active	*Plasmodium falciparum* vs. chloroquine-resistant strains.	L13602

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Not stated Kenya	Antimalarial Activity	H2O Ext H2O Ext H2O Ext H2O Ext MEOH Ext MEOH Ext MEOH Ext MEOH Ext	Not stated	IC50=101.0 mcg/ml IC50=404.0 mcg/ml IC50=441.0 mcg/ml IC50=563.0 mcg/ml IC50=493.0 mcg/ml IC50=504.0 mcg/ml IC50=858.0 mcg/ml IC50=961.0 mcg/ml	Equivocal Equivocal Equivocal Equivocal Equivocal Equivocal Equivocal Equivocal	*Plasmodium falciparum* vs. chloroquine-resistant strains.	L13602
Not stated Kenya	Antimalarial Activity	Pet ether Ext Pet ether Ext Pet ether Ext Pet ether Ext	Not stated	IC50=149.0 mcg/ml IC50=250.0 mcg/ml IC50=253.0 mcg/ml IC50=490.0 mcg/ml	Equivocal Equivocal Equivocal Equivocal	*Plasmodium falciparum* vs. chloroquine-resistant strains.	L13602
Stem Cuba	Antifungal Activity	Acetone Ext ETOH(95%)Ext H2O Ext	Agar Plate Agar Plate Agar Plate	50% 50% 50%	Inactive Inactive Inactive	*Neurospora crassa*	T08589
Aerial Parts Panama	Antifungal Activity	CHCl3 Ext H2O Ext MEOH Ext	Agar Plate Agar Plate Agar Plate	100.0 mcg 100.0 mcg 100.0 mcg	Inactive Inactive Inactive	*Cladosporium cucumerinum*	K11142 K11142 K11142
Root Panama	Antifungal Activity	CHCl3 Ext H2O Ext MEOH Ext	Agar Plate Agar Plate Agar Plate	100.0 mcg 100.0 mcg 100.0 mcg	Inactive Inactive Inactive	*Cladosporium cucumerinum*	K11142
Entire Plant Mexico	Antifungal Activity	Not stated	Agar Plate	Not stated MIC=100.0 mcg/ml MIC=125.0 mcg/ml MIC=62.0 mcg/ml	Inactive Inactive Inactive Weak Activity	*Microsporum gypseum* *Trichophyton mentagrophytes* *Microsporum gypseum* *Trichophyton mentagrophytes*	H20010
Entire Plant Papua-New Guinea	Antifungal Activity	CH2Cl2 Ext CH2Cl2 Ext ETOAC Ext ETOAC Ext ETOH(100%)Ext ETOH(100%)Ext Petrol(gasoline) Petrol(gasoline)	Agar Plate	Not stated	Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive	*Aspergillus niger* *Trichophyton mentagrophytes* *Aspergillus niger* *Trichophyton mentagrophytes* *Aspergillus niger* *Trichophyton mentagrophytes* *Aspergillus niger* *Trichophyton mentagrophytes*	L18469
Leaf Cuba	Antifungal Activity	Acetone Ext ETOH(95%)Ext H2O Ext	Agar Plate	50% 50% 50%	Inactive Inactive Inactive	*Neurospora crassa*	T08589

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Entire Plant Egypt	Antiyeast Activity	CHCl3 Ext ETOAC Ext ETOH(95%)Ext Petroleum	Agar Plate	30.0 mcg	Active Inactive Inactive Active	*Candida albicans*	K08651
Root Panama	Antiyeast Activity	CHCl3 Ext H2O Ext MEOH Ext	Agar Plate Agar Plate Agar Plate	100.0 mcg 100.0 mcg 100.0 mcg	Weak Activity Inactive Inactive	*Candida albicans*	K11142
Aerial Parts Panama	Antiyeast Activity	CHCl3 Ext H2O Ext MEOH Ext	Agar Plate	100.0 mcg	Inactive	*Candida albicans*	K11142
Entire Plant Papua-New Guinea	Antiyeast Activity	CH2Cl2 Ext CH2Cl2 Ext ETOAC Ext ETOAC Ext ETOH(100%)Ext ETOH(100%)Ext Petrol(gasoline) Petrol(gasoline)	Agar Plate	Not stated	Inactive	*Candida albicans* *Candida tropicalis* *Candida albicans* *Candida tropicalis* *Candida albicans* *Candida tropicalis* *Candida albicans* *Candida tropicalis*	L18469
Leaf Rwanda	Antiyeast Activity	MEOH Ext	Agar Plate	50.0 mg/ml	Active	*Candida albicans*	M25480
Leaf Ethiopia	Antiyeast Activity	H2O Ext	Agar Plate	0.20 ml	Strong Activity	*Candida albicans*	K21091
Leaf Ethiopia	Antiyeast Activity	ACID-ETOH Ext	Agar Plate	0.20 ml	Strong Activity Strong Activity	*Candida albicans*	K21091
Leaf Brazil	Antiviral Activity	MEOH(75%)Ext MEOH(75%)Ext MEOH(75%)Ext MEOH(75%)Ext MEOH(75%)Ext	Cell Culture	Not stated ED50=200 mcg/ml ED50=250 mcg/ml ED50=500 mcg/ml LD50=500 mcg/ml	Inactive Inactive Inactive Inactive Inactive	Virus - *Adenovirus*(unspec) Virus - *Herpes simplex 1* Virus - *Herpes simplex 2* Virus - *Poliovirus ii* Virus - *Vesicular stomatitis*	L05437
Entire Plant China	Antiviral Activity	ETOH(90%)Ext ETOH(90%)Ext	Cell Culture Cell Culture	MIC=125.0 mcg/ml MIC=65.0 mcg/ml	Weak Activity Weak Activity	Virus-*Cytomegalovirus* Virus-*Sindbis*	M28528
Aerial Parts Panama	Antiviral Activity	H2O Ext	Agar Plate	100.0 mcg/ml	Inactive	Virus - *Herpes simplex 1*	K28424

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Part - Origin	Activity Tested For	Type Extract	Model	Dosage	Result	Notes/Organism tested	Ref #
Leaf Rwanda	Antiviral Activity	ETOH(80%) Ext	Cell Culture	0.2 ml	Inactive	*Virus-coxsackie* *Virus-herpes(unspec)* *Virus-measles* *Virus-poliovirus(unspec)* *Virus-semlicki-forest*	K27812
Flowers South Africa	Antiamebic Activity	ETOH(100%)Ext H2O Ext	Not stated Not stated	Not stated IC50=>5.0 mg/ml	Inactive Inactive	*Entamoeba histolytica* *Entamoeba histolytica*	L16048
Aerial Parts Brazil	Antitrypanosomal Activity	ETOH(95%)Ext	Not stated	2.5 mg/ml	Inactive	*Trypanosoma cruzi*	K24859
Entire Plant Papua-new Guinea	Antitrichomonal Activity	CH2Cl2 Ext ETOAC Ext ETOH(100%)Ext Petrol(gasoline)	Agar Plate	4.0 mg	Equivocal Equivocal Inactive Equivocal	*Trichomonas vaginalis*	L18469
Seed Kenya	Molluscicidal Activity	H2O Ext	Not stated	Not stated	Inactive	*Biomphalaria pfeifferi*	T14178
Stem Kenya	Molluscicidal Activity	H2O Ext	Not stated	Not stated	Weak Activity	*Biomphalaria pfeifferi*	T14178
Aerial Parts Panama	Molluscicidal Activity	H2O Ext	Not stated	400.0 ppm	Inactive	*Biomphalaria glabrata*	K29051
Leaf Kenya	Molluscicidal Activity	H2O Ext	Not stated	Not stated	Weak Activity	*Biomphalaria pfeifferi*	T14178
Entire Plant Puerto Rico	Molluscicidal Activity	H2O slurry	Not stated	LD100 >1m ppm LD100 >1m ppm	Inactive Inactive	*Lymnaea columella* *Lymnaea cubensis*	T04621
Flowers Kenya	Molluscicidal Activity	H2O Ext	Not stated	Not stated	Weak Activity	*Biomphalaria pfeifferi*	T14178
Root Panama	Anticrustacean Activity	MEOH Ext	Not stated	LC50=38.0 mcg/ml	Active	*Artemia salina* assay system is intended to predict for antitumor activity.	K29268
Aerial Parts Uruguay	Anticrustacean Activity	HOT H2O Ext	Not stated	1.0%	Active	*Artemia salina* system is intended to predict for antitumor activity assay.	K18125
Aerial Parts Brazil	Anticrustacean Activity	ETOH(95%)Ext	Not stated	LC50=>100 ppm	Inactive	*Artemia salina* larvae assay system is intended to predict for antitumor activity.	K24859

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Part - Origin	Activity Tested For	Type Extract	Model	Dosage	Result	Notes/Organism tested	Ref #
Root Panama	Crown Gall Tumor Inhibition	MEOH Ext	Potato Disc	Not stated	Active	*Agrobacterium tumefaciens* assay system is intended to predict for antitumor activity.	K29268
Root Panama	Cytotoxic Activity	MEOH Ext	Not stated	100.0 mcg/ml	Inactive	Vs. cell line v79.	K29268
Aerial Parts Panama	Cytotoxic Activity	H2O Ext	Cell Culture	100.0 mcg/ml	Inactive	Cells-vero.	K28424
Aerial Parts Panama	Cytotoxic Activity	H2O Ext	Cell Culture	IC50=54.0 mcg/ml	Weak Activity	Cells-mt-4 vs. *HIV*-induced cytopathogenicity.	L10189
Leaf Brazil	Cytotoxic Activity	MEOH(75%)Ext	Cell Culture	IC50 500.0 mcg/ml	Inactive	Cells-vero.	L05437
Root Europe	Antileukemic Activity	MEOH Ext	in vitro	Not stated	Active	70-78% inhibition via potato disc assay.	AE1009
Entire Plant Taiwan	Antileukemic Activity	Hot H2O Ext Hot H2O Ext Hot H2O Ext Hot H2O Ext Hot H2O Ext	Cell Culture Cell Culture Cell Culture Cell Culture Cell Culture	171.4 mcg/ml 196.4 mcg/ml 197.3 mcg/ml 586.5 mcg/ml IC50=145.7 mcg/ml	Active Active Active Active Active	LEUK-K562. CELLS-P3-JHR1. LEUK-L1210. CELLS-U937. CELLS-RAJI.	L16511
Leaf Japan	Antioxidant Activity	MEOH Ext	Cell Culture	10.0 mg/liter	Inactive	Thymocytes vs. H202-induced cell death.	L14652
Leaf Japan	Radical Scavenging Effect	MEOH Ext	Not stated	10.0 mg/liter	Active	vs. DPPH radical.	L14652
Not stated South Africa	Anti-inflammatory Activity	ETOH Ext	in vitro	Not stated	Active	Inhibited cyclooxygenase.	AE1010
Leaf Rwanda	Immunomodulator Activity	ETOH(80%)Ext	Cell Culture	Not stated	Active	vs. PHA-induced lymphocyte proliferation.	K23025
Leaf Brazil	Immunosuppressant Activity	MEOH Ext MEOH Ext	Cell Culture	100.0 mcg/ml 100.0 mcg/ml	Active Active	vs. phytohemagglutin-stimulated lymphocyte proliferation. vs. concanavalin a-stimulated lymphocyte proliferation.	L04335
Not stated China	Cell Proliferation Inhibition	H2O Ext	Cell Culture	50.0 mcg/ml	Weak Activity	Mononuclear leukocytes.	L12764

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Part - Origin	Activity Tested For	Type Extract	Model	Dosage	Result	Notes/Organism tested	Ref #
Root Panama	DNA Intercalating Effect	MEOH Ext	Not stated	0.25 mg/ml	Active		K29268
Not stated Peru	DNA Binding Effect	ETOH(70%)Ext	Not stated	0.5 mg/ml	Weak Activity	DNA-calf thymus.	K27875
Entire Plant Taiwan	Glutamate-pyruvate-transaminase Inhibition	ETOH-H2O(1:1) Ext	Cell Culture	1.0 mg/ml	Inactive	Cells-rat-liver vs. CCl4-induced hepatotoxicity.	T14999
Entire Plant Taiwan	Glutamate-pyruvate-transaminase Inhibition	ETOH-H2O(1:1) Ext	Cell Culture	1.0 mg/ml	Inactive	Cells-rat-liver vs. PGE-1-induced pedal edema.	T14999
Aerial Parts Panama	Giant Cell Formation Inhibition	H2O Ext	Cell Culture	MIC=500.0 mcg/ml	Weak Activity	Cells-molt 4.	L10189
Aerial Parts Uruguay	Plant Root Growth Inhibition	HOT H2O Ext	Not stated	5.0%	Active	Assayed in *Triticum aestivum*.	K18125
Aerial Parts Uruguay	Plant Root Growth Stimulant	HOT H2O Ext	Not stated	0.5%	Equivocal	Assayed in *Triticum aestivum*.	K18125
Not stated	Acrosin Inhibition	ETOH (defatted with pet ether) Ext	Not stated	Not stated	Active		X00020
Not stated Peru	Beta-glucuronidase Inhibition	ETOH(70%)Ext	Not stated	IC50=7.6 mcg/ml	Active		K27875
Not stated Peru	Xanthine Oxidase Inhibition	ETOH(70%)Ext	Not stated	>50.0 mcg/ml	Inactive		K27875
Not stated	Phototoxic Activity	Not stated	Not stated	Not stated	Active	Phototoxic to bacteria, fungi and human fibroblast cells.	AE1013

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Biological Activities for Compounds of Picao preto *(Bidens pilosa)*

Compound Tested	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Quercetin 3,3'-dimethyl ether 7-o-alpha-l-rhamnopyranosyl-(1-6)-beta-d-glucopyranoside	Antimalarial Activity	in vitro	50 ug 25 ug 20 ug 10 ug 5 ug	Active Active Active Active Weak Activity	90% inhibition of *P. falciparum*. 85% inhibition of *P. falciparum*. 99% inhibition of *P. falciparum*. 73% inhibition of *P. falciparum*. 34% inhibition of *P. falciparum*.	AE1006
Quercetin 3,3'-dimethyl ether-7-o-beta-d-glucopyranoside	Antimalarial Activity	in vitro	50 ug 25 ug	Active Active	61% inhibition of *P. falciparum*. 54% inhibition of *P. falciparum*.	AE1006
beta-d-glucopyranose	Antimalarial Activity	Not stated	Not stated	Active	*Plasmodium falciparum*	AE1006
alpha-L-rhamnopyranosyl-(1-6)-beta-D-glucopyranose	Antimalarial Activity	Not stated	Not stated	Active	*Plasmodium falciparum*	AE1006
Phenylacetylene	Antimalarial Activity	Not stated	Not stated	Active	*Plasmodium falciparum*	AE1006
Phenylheptatriyne	Antimalarial Activity	Not stated	Not stated	Inactive	*Plasmodium falciparum*	AE1006
1-phenyl-1,3-diyn-5-en-7-ol acetate	Antimalarial Activity	in vitro	Not stated	Active	*Plasmodium falciparum*	J11673
Phenylheptatriyne	Antimicrobial Activity	Not stated	Not stated	Active		K08422
2-beta-d-glucopyranosyloxy-2-hydroxy-5(e)-tridecene-7,9,11-triyne + 3-beta-d-glucopyranosyloxy-1-hydroxy-6(e)-tetradecene-8,10,1 2-triyne	Hypoglycemic Activity	Mice	Not stated	Active	Reduced blood glucose.	L08341
Friedelin	Anti-inflammatory Activity	Not stated	Not stated	Active		K08422
Friedelan-3-beta-ol	Anti-inflammatory Activity	Not stated	Not stated	Active		K08422
Isoquercitrin	Neutrophil Elastase Inhibition	in vitro	IC50=0.7 mcg/ml	Active	Human neutrophil elastase.	AE1014
Alpha-tocopherylquinone	Vitamin E Production	Oral Human Adult	400 mg	Active	Converted to alpha-tocopherol (vitamin E).	AE1015
Alpha-tocopherylquinone	Antioxidant Activity	Cell Culture	Not stated	Active	Low concentrations.	AE1016

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Compound Tested	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Alpha-tocopherylquinone	Pro-oxidant Activity	Cell Culture	Not stated	Active	High concentrations.	AE1016

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