

Biological Activities for Extracts of Muira Puama (*Ptychopeltalum olacoides*)

Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Stembark French Guiana	Toxic Effect (General)	ETOH (90%) Ext ETOH (90%) Ext	IG Mouse IG Mouse	50.0 mg/kg 50.0 mg/kg	Inactive Inactive		M05122 M05122
Bark Brazil	Toxic Effect(general)	Not stated	Injection	21 cc/kg Not stated	Active Active	Death by heart arrest. Increase in the rate of respiration, returning to normal after 5 minutes.	AT1008
Root Brazil	Neuromuscular Toxicity	ETOH (95%) Ext	IP Mouse	LD50 = 200.0 mg/kg	Active	vs.yohimbine-induced toxicity. Results significant at p < 0.01 level.	L06824
Not Stated France	Sexual Performance Enhancement	Not stated	Oral Human Adult	Not stated	Active	Frequency of intercourse increased. Libido enhanced. Morning erections improved. Stability of erection during intercourse improved. Post-coital asthenia improved.	AT1009
Not Stated France	Sexual Performance Enhancement	Not stated	Oral Human Adult	Not stated	Active	In 26 patients treatment was effect in 100% with asthenia, 85% with diminished libido and 90% with instability of erection during coitus.	AT1009
Not Stated France	Sexual Performance Enhancement	ETOH Ext (4:1)	Oral Human Adult	1-1.5 g	Active	In 262 patients with a lack of sexual desire and the inability to attain or maintain an erection, after 2 weeks of treatment 62% had improved libido and 51% of patients had improved erection.	AT1010
Bark Brazil	Adaptogenic Activity	ETOH (10%)	IG Male <i>Macaca radiata</i>	100.0 mg/kg	Active	vs.forced swimming test. Results significant at p < 0.01 level.	J16115
Not Stated France	Antifatigue Activity	Not stated	Oral Human Adult	Not stated	Active	62 out of 94 patients had less fatigue.	AT1009
Not Stated	Antifatigue Activity	Not stated	Not stated	Not stated	Active	Physical and mental fatigue.	AT1013
Not Stated	Antistress Activity	ETOH Ext	Oral Human Adult	50-1,500 mg	Active		AT1013
Not Stated	Antistress Activity	ETOH Ext	Oral Rat	0.8 w/v%	Active	Extended the durable swimming time in rats forced to swim.	AT1013
Not Stated Brazil	Relaxation Activity	Not stated	Rabbit (<i>Corpus cavernosum</i>)	Not stated	Active	Short-lived relaxation.	AT1012
Bark Brazil	Hypotensive Activity	Not stated	Injection	Not stated	Active	Causes a transient lowering of blood pressure which disappears within 6 minutes; due to dilatation of the splanchnic vessels.	AT1008

Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Bark Brazil	Autonomic Nervous System Modulation Activity	Not stated	Not stated	Not stated	Active	Sensitizes the terminal nerve organs of the sympathetic but lessens the excitability of the terminal nerve organs of the parasympathetic nervous system.	AT1008
Bark Brazil	CNS Depressant Activity	ETOH (10%)	IG Male Mouse	25.0 mg/kg	Active	vs. open-field test. Results significant at p < 0.05 level.	J16115
Bark Brazil	CNS Stimulant Activity	ETOH (10%)	IG Male Mouse	100.0 mg/kg	Active	vs. forced swimming test. Results significant at p < 0.01 level.	J16115
Not Stated France	Sleep Enhancement Activity	Not Stated	Oral Human Adult	Not stated	Active	Improvement in the quality and quantity of sleep seen in 18 patients.	AT1009
Leaf Brazil	Analgesic Activity	Hydro-Alcoholic Ext	IG <i>Macaca radiata</i>	200.0 mg/kg	Active	vs. formalin-induced algesia.	J13503
Leaf Brazil	Analgesic Activity	Hydro-Alcoholic Ext	IG Mouse	200.0 mg/kg	Active	Effects described are from a multi-component Rx vs. hot plate method.	J13503
Leaf Brazil	Analgesic Activity	Hydro-Alcoholic Ext	IG Mouse	200.0 mg/kg	Active	Effects described are from a multi-component Rx vs. tail flick response to radiant heat.	J13503
Leaf Brazil	Analgesic Activity	Hydro-Alcoholic Ext	IG Mouse	200.0 mg/kg	Active	Effects described are from a multi-component Rx vs. capsaicin-induced algesia.	J13503
Leaf Brazil	Analgesic Activity	Hydro-Alcoholic Ext	IG Mouse	200.0 mg/kg	Active	vs. acetic acid-induced writhing.	J13503
Root Brazil	Muscle Effects (Unspecified)	ETOH (95%) Ext	IP Mouse	200.0 mg/kg	Active	Eye. vs. reserpine-induced ptosis. Results significant at p < 0.01 level.	L06824
Root Brazil	Antiulcer Activity	Not Stated	IG Rat Male and Female	Not Stated	Active	73.8% inhibition vs water immersion stress induced ulcer. Biological activity reported has been patented.	L07806
Root Brazil	Antistereotypic Behavior Effect	ETOH (95%) Ext	IP Mouse	200.0 mg/kg	Active	vs. apomorphine-induced stereotypy. Results significant at p < 0.01 level.	L06824
Root Brazil	Anxiogenic Activity	ETOH Ext	In Vivo	30 mg/kg 100 mg/kg 300 mg/kg	Active Active Inactive	vs. hole-board test - exploratory behavior decreased. vs. rota-rod test - locomotion or motor coordination interference.	L10703
Root Brazil	Anxiety Induction	ETOH (100%) Ext	IP Mouse	30.0 mg/kg	Active		L10703
Not Stated	Hypocholesterolemic Activity	ETOH Ext	Oral Rat	200 mu/L	Active	Total cholesterol reduced by 25% in animals fed ad libitum, while total triglycerides increased by 65%.	AT1014

Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Not Stated	Hypocholesterolemic Activity	ETOH Ext	Oral Human Adult	50-100 mg twice daily	Active	Total cholesterol slightly decreased. HDL rose from 50 to 75.	AT1014
Not Stated	Lipolytic Effect	ETOH Ext	Oral Rat	200 mu/L	Active	Weight gain seen but fat gain reduced. Fat pad weights of control were 1.25 g compared to treated group of 0.96 g. Lean muscle mass increased.	AT1014
Not Stated	Lipolytic Effect	ETOH Ext	Oral Human Adult	50-100 mg twice daily	Active	Body weight increased but body fat percentage decreased by 5%.	AT1014
Commercial Sample Brazil	Colony-Stimulating Factor Production Stimulation	Infusion	IP Adult Mouse	0.5 ml/Animal	Equiv.	vs. LPS-induced proliferation.	L07194
Commercial Sample Brazil	Mitogenic Activity	Infusion	Cell Culture	Not Stated	Equiv.	Splenocytes (mouse).	L07194
Not Stated France	Appetite Improvement Effect	Not stated	Oral Human Adult	Not stated	Active	Appetite improved in 8 patients.	AT1009
Not Stated Brazil	cAMP Stimulation Activity	Not stated	Rabbit (corpus cavemosum)	1 mg/ml 10 mg/ml 100 mg/ml	Active Active Active		AT1012

Biological Activities for Compounds of Muira Puama (*Ptychopetalum olacoides*)

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Eugenol	Anti-estrogenic Activity	Cell Culture	Not stated	Active	Able to displace 17beta-estradiol from isolated alpha- and beta- human estrogen receptors.	AT1019
Eugenol	Muscle Relaxant Activity	Rat (ileum)	IC50 = 83 mcM IC50 = 228 and 237 mcM	Active Active	Relaxed the basal tonus and the precontracted ileum. Inhibited contractions induced by acetylcholine and K+.	AT1020
Borneol	Nicotinic Acetylcholine Receptor Inhibition Activity	Cell Culture (bovine adrenal chromaffin cells)	IC50 = 56 M IC50 = 49 M IC50 = 70 M	Active Active Active Inactive	Inhibited nicotinic acetylcholine receptor agonist DMPP-induced calcium release. Inhibited nicotinic acetylcholine receptor agonist DMPP-induced calcium release. Inhibited DMPP-induced norepinephrine release. No effect on calcium increases induced by high K(+), veratridine and bradykinin.	AT1015

GI = Gastric Intubation IG = Intra-gastric IP = Intraperitoneally IV = Intravenously SC = Subcutaneously IM = Intramuscular
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Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Caryophyllene	Antimicrobial Activity	Agar Plate	Not stated	Active Active Weak Activity Weak Activity Weak Activity Inactive Inactive Inactive Inactive	<i>Bacillus cereus</i> <i>Proteus mirabilis</i> <i>Enterococcus faecalis</i> <i>Staphylococcus epidermidis</i> <i>S. aureus</i> <i>Micrococcus luteus</i> <i>Klebsiella</i> sp. <i>E. coli</i> <i>Candida albicans</i>	AT1017
Beta-caryophyllene	Antibacterial Activity	Agar Plate	Not stated	Active	Gram-positive <i>Enterococcus hirae</i> .	AT1016
Delta-cadinene	Antibacterial Activity	Agar Plate	Not stated	Active	Gram-positive and -negative bacteria.	AT1018
Allpha-copaene	Antibacterial Activity	Agar Plate	Not stated	Active	Gram-positive and -negative bacteria.	AT1018
Beta-caryophyllene	Antifungal Activity	Agar Plate	Not stated	Active		AT1016
Lupeol	Human Leucocyte Elastase Inhibitory Activity	Cell Culture	IC50=1.9 mcM	Active		AT1021
Lupeol	Antioxidant Activity	Cell Culture	Not stated	Active	Suppressed superoxide generation induced by arachidonic acid.	AT1022
Behenic acid	Hypercholesterolemic Activity	Oral Human Adult	Not stated	Active	Cholesterol-raising.	AT1023

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