

Biological Activities of Piri-Piri (*Cyperus articulatus*)

Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Rhizome - Cameroon	Anti-epileptic Activity	H2O ext	Rat cortex	0.5 mg/ml	Active		J19348
Rhizome - Cameroon	Anti-epileptic Activity	H2O ext	Rat Brain	0.5 mg/ml	Active	Reduced spontaneous epileptiform discharges and NMDA-induced epolarisations	L23992
Rhizome - Cameroon	Receptor Inhibition (for anti-epileptic activity)	H2O ext	Rat Brain	0.3 mg/ml	Active	Inhibited n-methyl-d-aspartate (NMD) receptor binding.	L23992
Rhizome - Cameroon	Receptor Inhibition (for anti-epileptic activity)	H2O ext	Rat Brain	ED50: 1.3 micromols	Active	Inhibited 50% of glutamate induced inward current through hNMDAR1A/2A receptors.	T06340
Rhizome - Cameroon	Receptor Inhibition (for anti-epileptic activity)	H2O ext	Rat Brain	ED50: 30 micromols	Active	Decrease excitation (NMDA receptor antagonists) and increase inhibition (GABA(B) receptor agonists) in the central nervous system.	T06340
Rhizome - Cameroon	Binding Activity	H2O ext ETOAC ext	Rat cortex	178 mcg/ml 36.0 mcg/ml	Active Active	Glycine receptor binding.	J19348
Rhizome - Cameroon	Anticonvulsant Activity	MEOH ext	IP Mouse	ED50: 306 mg/kg	Active	vs. maximal electroshock- and pentylenetetrazol-induced seizures.	L15103
Rhizome - Cameroon	Anticonvulsant Activity	MEOH ext	IP Mouse	50 mg/kg	Active	vs. strychnine-, bicuculline-, & n-methyl-d-aspartate- induced convulsions and excitation.	PP1007
Rhizome - Cameroon	Anticonvulsant Activity	MEOH ext	IP Mouse	Not stated	Active	vs. maximal electroshock- and pentylenetetrazol-induced seizures.	PP1010
Rhizome - Cameroon	Locomotor Activity	Decoction	IP Mouse	0.02 gm/kg	Active	Decreased locomotor activity.	L14930

GI = Gastric Intubation IG = Intragastric IP = Intraperitoneally IV = Intravenously SC = Subcutaneously PO = Orally

Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Rhizome - Cameroon	Sedative Activity	Decoction	IP Mouse	2.0 gm/kg	Active	vs. sodium thiopental-induced and diazepam-induced sleep time.	L14930
Rhizome - Cameroon	Analgesic Activity	Not stated	Mouse	2 gm/kg	Inactive	vs. uphold tail in hot water.	L14930
Rhizome - Cameroon	Smooth Muscle Relaxant Activity	Decoction	IP Mouse	2.0 gm/kg	Inactive		L14930
Rhizome - Peru	Anticrustacean Activity	MEOH ext CH ₂ CL ₂ ext	In vitro	ED ₅₀ : 69 mcg/ml DE ₅₀ : 33 mcg/ml	Active Active	Assay system is intended to predict for antitumor activity.	K28202
Rhizome - Nigeria	Antimalarial Activity	ETOH-H ₂ O ext	Not stated	Not stated	Active	<i>Plasmodium falciparum</i>	J16227
Rhizome - Peru	Antioxidant Activity	MEOH ext	In vitro	IC ₅₀ : 171.8 mg/ml	Active	Measured by quenching of Luminol-enhanced chemiluminescence.	L03868
Rhizome - Peru	Antibacterial Activity	Decoction	Broth culture	25/mg/ml	Active Active Inactive Inactive Inactive Inactive	<i>Staphylococcus aureus</i> <i>Pseudomonas aeruginosa</i> <i>Mycobacterium gordonae</i> <i>Escherichia coli</i> <i>Klebsiella pneumoniae</i> <i>Salmonella gallinarum</i>	K28202
Rhizome - Peru	Antibacterial Activity	Decoction	Agar plate	Not stated	Active Active Inactive Inactive Inactive Inactive	<i>Staphylococcus aureus</i> <i>Pseudomonas aeruginosa</i> <i>Mycobacterium gordonae</i> <i>Escherichia coli</i> <i>Klebsiella pneumoniae</i> <i>Salmonella gallinarum</i>	J15343
Rhizome - Peru	Anti-yeast Activity	Decoction	Broth culture	25/mg/ml	Inactive	<i>Candida albicans</i>	K28202
Rhizome - Brazil	Anti-yeast Activity	ETOH ext	Agar plate	Not stated	Active	<i>Candida albicans</i>	PP1008
Rhizome - Peru	DNA Binding Effect	MEOH ext	In vitro	1.0 mg/ml	Inactive	DNA-Methyl green assay.	K28202

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Rhizome - Nigeria	Insecticide Activity	Powder Petroleum ext MEOH Ext	In vivo	1%	Active	<i>Tribolium confusum</i> adult	L09384
Rhizome - Nigeria	Antifeedant Activity	Petroleum ext MEOH Ext	In vivo	Not stated	Active	<i>Tribolium confusum</i> adult	L09384

Biological Activities of Compounds in Piri-Piri (*Cyperus articulatus*)

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Alpha-cyperone	Antimalarial Activity	In vitro	5.5 mcg/ml	Active		PP1006
Cyperotundone	Nitric Oxide Synthesis Inhibition Activity	Cell culture	IC50: 7.8 mcg/ml	Active	Macrophage cell line vs. LPS- induced nitric oxide production	L15243
Cyperotundone	Prostaglandin Synthetase Inhibition	In vitro	IC50: 520 micromols	Active	Rabbit microsomes	T08539

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