

## Biological Activities for Extracts of Embauba (*Cecropia obtusifolia*)

Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Leaf Costa Rica	Toxicity Assessment (quantitative)	H2O Ext	IP Mouse Male	LD50=1450 mg/kg			L15533
Leaf + Stem Jamaica	Toxicity Assessment (quantitative)	ETOH(95%)Ext H2O Ext	IP Mouse IP Mouse	1.0 ml 0.1 ml			A03360
Leaf Costa Rica	Diuretic Activity	H2O Ext	Oral Rat	500 mg/kg	Active	Increased urine flow by 20%.	BL1024
Leaf Guatemala	Diuretic Activity	Decoction	Oral Rat	1.0 gm/kg	Inactive		T15295
Leaf Costa Rica	Renal Parameter Alterations	H2O Ext	Oral Rat	500 mg/kg	Inactive	While urine flow was increased, there was no effect in excretion in urine of osmoles, sodium and potassium, or daily ingestion of food and water.	BL1024
Leaf Cuba	Bronchodilator Activity	Hot H2O Ext	IV Guinea Pig	1.5 ml	Inactive		M29843
Leaf Costa Rica	Anti-inflammatory Activity	H2O Ext H2O Ext	External Mouse IP Rat Male	1.0 mg/kg 125.0 mg/kg	Active Active	vs. TPA- induced ear inflammation. vs. carrageenan-induced pedal edema.	L15533
Leaf Mexico	Anti-inflammatory Activity	ETOH(95%)Ext	Not Stated	Not Stated	Equivocal	In het-cam assay.	L07398
Leaf Costa Rica	Analgesic Activity	H2O Ext H2O Ext H2O Ext	IP Mouse Male IP Mouse Male IP Mouse Male	50.0 mg/kg 50.0 mg/kg 500.0 mg/kg	Active Active Inactive	vs. acetic acid-induced writhing. vs. formalin-induced pain. vs. hot plate method.	L15533
Leaf + Stem Jamaica	Spasmogenic Activity	ETOH(95%)Ext H2O Ext	Guinea Pig IP Guinea Pig	0.33 ml/liter 0.33 ml/liter	Active Active	Ileum. Ileum.	A03360
Leaf Costa Rica	Antihypertensive Activity	H2O Ext	In Drinking Water Rat	20.0 mg/kg	Inactive	Spontaneously hypertensive rats were dosed for 4 weeks.	M20733
Leaf Costa Rica	Antihypertensive Activity	H2O Ext	IV Rat	50.0 mg/kg	Active	The effect was tested in spontaneously hypertensive rats.	M20734
Leaf Costa Rica	Hypotensive Activity	H2O Ext	IV Rat	50.0 mg/kg	Weak Activity		M20734
Leaf Mexico	Hypotensive Activity	Lyophilized Extract	IV Rat	10.0 mg/kg	Active		M08249

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Leaf Mexico	Tachycardia Activity	Lyophilized Extract	IV Rat	10.0 mg/kg	Active		M08249
Leaf Mexico	Hyperlipidemic Activity	Hot H2O Ext	IV Dog	150.0 mcl/kg	Active	Results significant at p < 0.05 level. vs. pancreatectomy and vs. pancreatectomy with duodenectomy.	M05236
Root + Cortices + Leaf France	Lipolytic Activity	H2O Ext ETOH Ext	In vitro	0.04% wt./vol. 0.05% wt./vol. 0.04% wt./vol.	Active Active Active	41% activation of lipolysis. 44% activation of lipolysis. 58% activation of lipolysis.	BL1025
Leaf + Stem Mexico	Antihyperglycemic Activity	H2O Ext H2O Ext	Oral Mouse IP Mouse	Not Stated Not Stated	Active Active	vs. alloxan-induced hyperglycemia. vs. alloxan-induced hyperglycemia.	T08848
Leaf Mexico	Hypoglycemic Activity	Decoction	IG Rabbit	4.0 ml/kg	Weak Activity	Glucose levels were decreased 18.9%.	K10686
Leaf Mexico	Hypoglycemic Activity	Hot H2O Ext	IV Dog	150.0 mcl/kg	Active	vs. pancreatectomy and vs. pancreatectomy with duodenectomy.	M05236
Leaf Mexico	Hypoglycemic Activity	H2O Ext H2O Ext BuOH Ext BuOH Ext	Oral Rat	90 mg/kg 150 mg/kg 9 mg/kg 15 mg/kg	Active	All extracts lowered plasma glucose levels after 3 hr of administration. vs. streptozotocin-induced diabetes.	BL1022
Leaf Costa Rica	CNS Depressant Activity	H2O Ext	IP Mouse	125.0 mg/kg	Active		L15533
Not Stated Mexico	Antibacterial Activity	H2O Ext MEOH Ext MEOH Ext MEOH Ext	Agar Plate Agar Plate Agar Plate Agar Plate	MIC=4.0 mg/ml 2.5 mg/ml 2.5 mg/ml 2.5 mg/ml	Active Inactive Inactive Inactive	<i>Staphylococcus aureus</i> <i>Escherichia coli</i> <i>Proteus vulgaris</i> <i>Sarcina lutea</i>	J12224
Bark Guatemala	Antibacterial Activity	ETOH- H2O(50%)Ext	Agar Plate	50.0 mcl	Inactive Inactive Inactive Inactive	<i>Salmonella enteritidis</i> <i>Salmonella typhosa</i> <i>Shigella dysenteriae</i> <i>Shigella flexneri</i>	K24899

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Leaf Cuba	Antibacterial Activity	Acetone Ext	Agar Plate	Not Stated	Active Active Active Active Active Active Inactive Inactive Inactive Inactive	<i>Escherichia coli</i> <i>Pseudomonas aeruginosa</i> <i>Salmonella B</i> <i>Serratia marcescens</i> <i>Shigella flexneri</i> <i>Staphylococcus albus</i> <i>Salmonella newport</i> <i>Salmonella typhi</i> <i>Sarcina lutea</i> <i>Staphylococcus aureus</i>	T16261
Leaf Cuba	Antibacterial Activity	ETOH(95%)Ext	Agar Plate	Not Stated	Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive	<i>Escherichia coli</i> <i>Pseudomonas aeruginosa</i> <i>Salmonella B</i> <i>Salmonella newport</i> <i>Salmonella typhi</i> <i>Sarcina lutea</i> <i>Serratia marcescens</i> <i>Shigella flexneri</i> <i>Staphylococcus albus</i> <i>Staphylococcus aureus</i>	T16261
Leaf Cuba	Antibacterial Activity	H2O Ext	Agar Plate	Not Stated	Active Active Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive	<i>Shigella flexneri</i> <i>Staphylococcus albus</i> <i>Escherichia coli</i> <i>Pseudomonas aeruginosa</i> <i>Salmonella B</i> <i>Salmonella typhi</i> <i>Sarcina lutea</i> <i>Serratia marcescens</i> <i>Staphylococcus aureus</i> <i>Salmonella newport</i>	T16261
			Rat	Not Stated			

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Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Stem Cuba	Antibacterial Activity	Acetone Ext	Agar Plate	Not Stated	Active Active Active Active Active Active Active Active Active Inactive Inactive	<i>Escherichia coli</i> <i>Pseudomonas aeruginosa</i> <i>Salmonella B</i> <i>Salmonella newport</i> <i>Salmonella typhi</i> <i>Serratia marcescens</i> <i>Shigella flexneri</i> <i>Staphylococcus aureus</i> <i>Sarcina lutea</i> <i>Staphylococcus albus</i>	T16261
Stem Cuba	Antibacterial Activity	ETOH(95%)Ext	Agar Plate	Not Stated	Active Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive	<i>Serratia marcescens</i> <i>Escherichia coli</i> <i>Poliovirus(unspec)</i> <i>Pseudomonas aeruginosa</i> <i>Salmonella B</i> <i>Salmonella newport</i> <i>Salmonella typhi</i> <i>Shigella flexneri</i> <i>Staphylococcus albus</i> <i>Staphylococcus aureus</i>	T16261
Stem Cuba	Antibacterial Activity	H2O Ext	Agar Plate	Not Stated	Active Active Active Active Active Active Active Active Inactive Inactive Inactive	<i>Escherichia coli</i> <i>Pseudomonas aeruginosa</i> <i>Salmonella newport</i> <i>Salmonella typhi</i> <i>Sarcina lutea</i> <i>Serratia marcescens</i> <i>Shigella flexneri</i> <i>Salmonella B</i> <i>Staphylococcus albus</i> <i>Staphylococcus aureus</i>	T16261
Not Stated Cuba	Antifungal Activity	Not Stated	Agar Plate	Not Stated	Active	<i>Ascomiceto Neurospora crassa</i>	BL1020
Leaf Cuba	Antifungal Activity	Acetone Ext ETOH(95%)Ext H2O Ext	Agar Plate Agar Plate Agar Plate	50% 50% 50%	Inactive Active Inactive	<i>Neurospora crassa</i> <i>Neurospora crassa</i> <i>Neurospora crassa</i>	T08589
Stem Cuba	Antifungal Activity	Acetone Ext ETOH(95%)Ext H2O Ext	Agar Plate Agar Plate Agar Plate	50% 50% 50%	Inactive Active Inactive	<i>Neurospora crassa</i> <i>Neurospora crassa</i> <i>Neurospora crassa</i>	T08589

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Not Stated Mexico	Antiyeast Activity	MEOH Ext	Agar Plate	2.5 mg/ml	Inactive	<i>Candida albicans</i>	J12224
Not Stated Paraguay	Free-Radical Scavenging Activity	MEOH Ext	Rat microsomal membranes	Not Stated	Active	Scavenged superoxide and DPPH radicals.	BL1021
Leaf Panama	Cytotoxic Activity	H2O Ext MeCl2 Ext MEOH Ext	Cell Culture	Not Stated	Inactive Inactive Inactive	Ca-human-colon-co-115.	M18404
Leaf Mexico	Transcription Inhibition	ETOH(95%)Ext	Cell Culture	100.0 mcg/ml	Inactive	Ca-hela. Inhibited NF-kappa B activation.	L07398
Root + Cortices + Leaf France	Skin Toning Effect	H2O Ext	Human Adult	1.5%	Active	Increased dynamic tension (tightening of the skin increases dynamic tension) 25.4-52%.	BL1025
Root + Cortices + Leaf France	Skin Hydration	ETOH Ext	Human Adult	1.5%	Active	Increased coefficient friction by 31.5%; this shows an improvement in cutaneous softness and skin moisture.	BL1025
Root + Cortices + Leaf France	Effect on Skin Complexion & Radiance	ETOH Ext H2O Ext	Human Adult	1.5%	Active Active	Increased mean reflectivity value by 11% Increased mean reflectivity value by 14%. An increase in mean reflectivity value demonstrates improved radiance of the complexion.	BL1025
Stem Panama	AT-1 Receptor Inhibition	CHCl3 Sol Fract H2O Ext H2O Ext Hexane Ext MEOH-CH2Cl2 MEOH-H2O Ext Tannin-free Extract	Not Stated Not Stated Not Stated Not Stated Not Stated Not Stated Not Stated	10.0 mcg/ml 10.0 mcg/ml 10.0 mcg/ml 10.0 mcg/ml 10.0 mcg/ml 10.0 mcg/ml 10.0 mcg/ml	Inactive Inactive Active Inactive Inactive Inactive Inactive		L18181
Stem Panama	ET-A Receptor Inhibition	ETOH(80%)Ext	Not Stated	100.0 mcg/ml	Active		L18181

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Stem Panama	Y-1 Receptor Inhibition	CHCl3 Sol Fract H2O Ext Hexane Ext MEOH-CH2Cl2 MEOH-H2O Ext	Not Stated Not Stated Not Stated Not Stated Not Stated	10.0 mcg/ml 10.0 mcg/ml 10.0 mcg/ml 10.0 mcg/ml 10.0 mcg/ml	Active Inactive Inactive Inactive Inactive		L18181

## Biological Activities for Compounds of Embauba (*Cecropia obtusifolia*)

Compound Tested	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Ambain	Diuretic Activity	Not Stated	Not Stated	Active		BL1008 BL1025
Cecropin	Diuretic Activity	Not Stated	Not Stated	Active		BL1008 BL1025
Flavonoids + Proanthocyanidins	Angiotensin Converting Enzyme Inhibition	In vitro	0.33 mg/ml	Active		BL1023
Ambain	Cardiovascular Activity	Not Stated	Not Stated	Active	Cardiac tonic.	BL1008 BL1025
Cecropin	Cardiovascular Activity	Not Stated	Not Stated	Active	Cardiac tonic.	BL1008 BL1025
Isoorientin	Hypoglycemic Activity	Oral Rat	Not Stated	Active	vs. streptozotocin-induced diabetes.	BL1022
Chlorogenic acid	Hypoglycemic Activity	Oral Rat	Not Stated	Active	vs. streptozotocin-induced diabetes.	BL1022
Polysaccharide	Glycogen Effect	Not Stated	Not Stated	Active	Un-named polysaccharide has a structure close to glycogen.	BL1025

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