

## Biological Activities for Extracts of Brazilian Peppertree (*Schinus molle*)

Plant Part / Origin	Activity Tested For	Type Extract	Method	Dosage	Results	Notes/Organism tested	Ref #
Fresh Leaf Spain	Toxicity Assessment (quantitative)	CHCL2OH Ext	IP Mouse	LD50=1.3 gm/kg			J11320
Fruit Essential Oil	Toxicity Assessment (quantitative)	Essential Oil	Gastric Intubation Rat	LD50>5.0 mg/kg	Inactive		M10800
Fruit Essential Oil	Toxicity Assessment (quantitative)	Essential Oil	Intradermal Rat	LD50>5.0 mg/kg	Inactive		M10800
Part Not Specified Brazil	Mitogenic Activity	Infusion	Cell Culture	Not stated	Inactive	Splenocytes (mouse)	L07194
Fruit Essential Oil	Irritant Activity	Essential Oil	External Mice (nude)	Not stated	Inactive		M10800
Fruit Essential Oil	Irritant Activity	Essential Oil	External Pig	Not stated	Inactive		M10800
Fruit Essential Oil	Irritant Activity	Essential Oil	External Rabbit	Not stated	Weak Activity		M10800
Fruit Essential Oil	Irritant Activity	Patch Test	Human Adult	Not stated	Inactive		M10800
Fruit Essential Oil	Phototoxicity	Essential Oil	External Mice(nude)	Not stated	Inactive		M10800
Fruit Essential Oil	Phototoxicity	Essential Oil	External Pig	Not stated	Inactive		M10800
Fruit Essential Oil	Sensitization (skin)	Essential Oil	External Human	Not stated	Inactive		M10800
Leaf + Stem Chile	Antitumor Activity	ETOH-H2O (1:1) Ext	IP Mouse	Not stated	Active	Leukemia-P388	A00678
Part Not Specified Argentina	Cytotoxic Activity	MEOH Ext	Cell Culture	IC50=50 mcg/ml	Active	Human hepatocellular carcinoma cell line Hep G2	AF1001
Leaf + Stem Chile	Cytotoxic Activity	ETOH-H2O (1:1) Ext	Cell Culture	Ed50 <20.0 mcg/ml	Active	CA-9KB	A00678

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Dried Leaf + Stem Brazil	Cytotoxic Activity	MEOH(75%) Ext	Cell Culture	ED50=1000 mcg/ml	Inactive	Cells-vero	L05437
Fruit Japan	Tumor Promotion Inhibition	ETOAC Ext	Cell Culture	50.0 mcg/ml	Equivocal	vs. tetradecanoyl phorbol acetate-induced acetate phospholipid synthesis.	J14743
Fruit Japan	Tumor Promotion Inhibition	Hexane Ext	Cell Culture	50.0 mcg/ml	Weak Activity	vs. tetradecanoyl phorbol acetate-induced acetate phospholipid synthesis.	J14743
Fruit Japan	Tumor Promotion Inhibition	MEOH Ext	Cell Culture	50.0 mcg/ml	Inactive	vs. tetradecanoyl phorbol acetate-induced acetate phospholipid synthesis.	J14743
Fruit Pakistan	Uterine Stimulant Effect	H2O Ext H2O Ext H2O Ext H2O Ext	Rabbit Rabbit Rat female Rat female	Not stated 100.0 ml/liter 30.0 ml/liter 30.0 ml/liter	Active Inactive Inactive Active	Uterus (preg). Uterus (preg). Uterus (non-preg). Uterus (preg).	A03484
Part Not Specified Argentina	Uterine Stimulant Effect	H2O Ext	Guinea Pig	1-500	Active	Uterus (unspec.cond).	A03467
Part Not Specified	Antiimplantation Effect	ETOH(95%) Ext	SC Rat	Not stated	Active		X01111
Part Not Specified Brazil	Colony-stimulating Factor Production Stimulation	Infusion	IP Mouse	0.5 ml/animal	Active	vs. IPS-induced proliferation	L07194
Fruit Japan	Antiinflammatory Activity	ETOAC Ext MEOH Ext Hexane Ext	External Mouse	0.2 ml/animal	Active	vs. tetradecanoyl phorbol acetate-induced acetate phospholipid synthesis and vs. TPA-induced ear inflammation.	J14743
Part Not Specified Spain	Anti-inflammatory Activity	Not stated	Not stated	Not stated	Active	Competitive inhibitor of phospholipase A2.	AF1002
Part Not Specified Origin Not stated	Anti-inflammatory Activity	Hydroalcoholic Ext	Human (female)	Not stated	Active	Healing of 100 patients with chronic cervicitis and cervico-vaginitis	AF1003
Fruit Origin Not stated	Anti-inflammatory Activity	Not stated	Not stated	Not stated	Active	Inhibited phospholipase A2 in human synovial fluid.	AF1005

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Fresh Leaf Spain	Analgesic Activity	CHCL2OH Ext	IP Mouse	130.0 mg/kg	Active	vs. acetic acid-induced writhing and vs. mechanical stimulus-induced pain.	J11320
Fresh Leaf Spain	Analgesic Activity	CHCL2OH Ext	IP Mouse	130.0 mg/kg	Inactive	vs. hot plate method.	J11320
Fresh Leaf Spain	Antispasmodic Activity	CH2CL2 Ext	Guinea Pig (Ileum)	10.0 mcg/ml	Active	vs. histamine-induced contractions. (Statistical data in report indicating significant results.)	L08263
Fresh Leaf Spain	Antispasmodic Activity	CH2CL2 Ext	Rat Female Uterus	10.0 mcg/ml	Active	vs. serotonin-induced contractions. (Statistical data in report indicating significant results.)	L08263
Fresh Leaf Spain	Antispasmodic Activity	CH2CL2 Ext	Rat Duodenum	100.0 mcg/ml	Active	vs. ACH-induced contractions.	L08263
Fresh Leaf Spain	Spasmolytic Activity	CH2CL2 Ext	IV Rat	100.0 mcg/ml	Active	vs. norepinephrine-induced contractions.	J11623
Fruit Pakistan	Hypotensive Activity	H2O Ext	IV Dog	Not stated	Active		A03484
Fresh Leaf Spain	Hypotensive Activity	CH2CL2 Ext MEOH Ext	IV Rat IV Rat	15.0 mg/kg 66.0 mg/kg	Active Active		J11623 J11623
Fresh Leaf Spain	Hypotensive Activity	CH2CL2 Ext	IV Rat	15.0 mg/kg	Active	vs. norepinephrine-induced hypertension.	J11623
Fresh Leaf Spain	Locomotor Activity Decrease	CHCL2OH Ext	IP Mouse	130.0 mg/kg	Active		J11320
Aerial Parts	Aldose Reductase Inhibition	MEOH Ext	Not stated	IC50 = 6.4 mcg/ml	Weak Activity		K27394
Aerial Parts	Platelet Aggregation Inhibition	MEOH Ext	Not stated	100.0 mcg/ml	Inactive	vs. adenosine diphosphate arachidonic acid and collagen stimulation.	K27394
Aerial Parts	Venotonic Activity	MEOH Ext	Not Stated	100.0 mcg/ml	Inactive	vs. platelet aggregating factor stimulation.	K27394

Plant Part / Origin	Activity Tested For	Type Extract	Method	Dosage	Results	Notes/Organism tested	Ref #
Leaf Essential Oil India	Antifungal Activity	Essential Oil	Agar Plate	400.0 ppm	Strong Activity	<i>Microsporium gypseum</i> <i>Trichophyton rubrum</i> <i>Trichophyton mentagrophytes</i>	T11947
Aerial Parts Cuba	Antimicrobial Activity	Not stated	Agar Plate	Not stated	Active	<i>Staphylococcus aureus</i> <i>Bacillus subtilis</i> <i>Escherichia coli</i> <i>Pseudomonas aeruginosa</i> <i>Candida albicans</i>	AF1004
Part Not Specified Brazil	Antimicrobial Activity	ETOH Ext	Rat	Not stated	Active	<i>Enterococcus</i> <i>Bacillus corineforme</i> <i>Streptococcus viridans</i> (Statistical data in report indicating significant results.)	AF1006
Leaf Essential Oil Zimbabwe	Antifungal Activity	Essential Oil	Agar Plate	0.10 mg/ml	Active	<i>Candida albicans</i> <i>Aspergillus niger</i> <i>Aspergillus flavus</i> <i>Aspergillus ochraceus</i> <i>Aspergillus parasiticus</i> <i>Alternaria alternata</i> <i>Chaetomium species</i> <i>Fusarium culmorum</i> <i>Geotrichum candidum</i> <i>Penicillium citrinum</i>	K26244
Leaf Essential Oil India	Antifungal Activity	Essential Oil	Agar Plate	500.0 ppm	Active	Several fungi <i>Aspergillus alternata</i> <i>Aspergillus flavus</i> <i>Penicillium italicum</i>	T11947
Entire Plant Argentina	Antifungal Activity	ETOH (100%) Ext	Agar Plate	0.8 mg/ml	Inactive	<i>Lenzites elegans</i> <i>Ganoderma applanatum</i> , <i>Schizophyllum commune</i> <i>Pycnoporus sanguineus</i>	L12768
Entire Plant Argentina	Antifungal Activity	ETOH (100%) Ext	Agar Plate	0.8 mg/ml	Weak Activity	<i>Aspergillus niger</i> <i>Fusarium oxysporum</i> <i>Penicillium notatum</i> <i>Trichoderma sp</i>	L12768

Plant Part / Origin	Activity Tested For	Type Extract	Method	Dosage	Results	Notes/Organism tested	Ref #
Essential Oil Egypt	Antifungal Activity	Essential Oil	Agar Plate	Undiluted	Inactive	<i>Penicillium cyclopium</i> <i>Trichoderma viride</i> <i>Aspergillus aegyptiacus</i>	T06640
Leaf Essential Oil Egypt	Antifungal Activity	Essential Oil	Agar Plate	Not stated	Active Inactive Inactive	<i>Penicillium cyclopium</i> <i>Pseudomonas herbicola</i> <i>Trichoderma viride</i>	T14976
Entire Plant Argentina	Antiyeast Activity	ETOH (100%) Ext	Agar Plate	0.2 mg / plate	Inactive Active	<i>Rhodotorula sp.</i> <i>Saccharomyces carlsbergensis</i>	L12768
Dried Leaf Uruguay	Antiyeast Activity	ETOH (70%) Ext H2O Ext	Agar Plate	10.0 mg/ml	Inactive	<i>Candida albicans</i>	L15672
Leaf Essential Oil Zimbabwe	Antibacterial Activity	Essential Oil	Agar Plate	1:1	Active	<i>Brevibacterium linens</i> <i>Bacillus subtilis</i> <i>Aeromonas hydrophila</i> <i>Escherichia coli</i> <i>Klebsiella pneumoniae</i> <i>Beneckea natriegens</i> <i>Alcaligenes faecalis</i> <i>Brevibacterium linens</i> <i>Citrobacter freundii</i> <i>Brochothrix thermosphacta</i> <i>Clostridium sporogenes</i> <i>Lactobacillus plantarum</i> <i>Serratia marcescens</i> <i>Leuconostoc cremoris</i> <i>Proteus vulgaris</i> <i>Moraxella species</i> <i>Pseudomonas aeruginosa</i> <i>Yersinia enterocolitica</i> <i>Acinetobacter calcoaceticus</i>	K26244
Essential Oil Egypt	Antibacterial Activity	Essential Oil	Agar Plate	Undiluted	Active	<i>Pseudomonas aeruginosa</i> <i>Staphylococcus aureus</i>	T06640
Leaf Essential Oil Egypt	Antibacterial Activity	Essential Oil	Agar Plate	Not stated	Active Active Inactive	<i>Pseudomonas aeruginosa</i> <i>Staphylococcus aureus</i> <i>Bacillus aereus</i>	T14976

Plant Part / Origin	Activity Tested For	Type Extract	Method	Dosage	Results	Notes/Organism tested	Ref #
Essential Oil Egypt	Antibacterial Activity	Essential Oil	Agar Plate	Undiluted	Inactive	<i>Bacillus cereus</i> <i>Escherichia coli</i>	T06640
Dried Leaf Argentina	Antibacterial Activity	Decoction H2O Ext Hot H2O Ext Hot H2O Ext Hot H2O Ext	Agar Plate	Not stated 1.0 mg/ml 62.5 mg/ml 62.5 mg/ml 62.5 mg/ml	Inactive	<i>Pseudomonas aeruginosa</i> <i>Salmonella typhi</i> <i>Escherichia coli</i> <i>Staphylococcus aureus</i> <i>Aspergillus niger</i>	K17523 J11153 K14683 K14683 K14683
Leaf Essential Oil Zimbabwe	Antibacterial Activity	Essential Oil	Agar Plate	1:1	Weak Activity	<i>Enterobacter aerogenes</i> <i>Erwinia carotovora</i>	K26244
Leaf Essential Oil Zimbabwe	Antibacterial Activity	Essential Oil	Agar Plate	1:1	Inactive	<i>Micrococcus luteus</i> <i>Staphylococcus aureus</i> <i>Streptococcus faecalis</i>	K26244
Dried Leaf Uruguay	Antimycobacterial Activity	ETOH(70%)Ext H2O Ext	Agar Plate	10.0 mg/ml	Inactive	<i>Mycobacterium smegmatis</i>	L15672
Dried Leaf Uruguay	Antibacterial Activity	ETOH (70%) Ext	Agar Plate	10.0 mg/ml	Equivocal Equivocal Equivocal Equivocal Equivocal Equivocal Inactive Inactive	<i>Bacillus subtilis</i> <i>Escherichia coli</i> <i>Klebsiella pneumoniae</i> <i>Micrococcus luteus</i> <i>Pseudomonas aeruginosa</i> <i>Staphylococcus aureus</i> <i>Escherichia coli</i> <i>Salmonella typhimurium</i>	L15672
Dried Leaf Uruguay	Antibacterial Activity	H2O Ext	Agar Plate	10.0 mg/ml	Equivocal Equivocal Equivocal Equivocal Inactive Inactive Inactive Inactive	<i>Escherichia coli</i> <i>Micrococcus luteus</i> <i>Pseudomonas aeruginosa</i> <i>Staphylococcus aureus</i> <i>Bacillus subtilis</i> <i>Escherichia coli</i> <i>Klebsiella pneumoniae</i> <i>Salmonella typhimurium</i>	L15672
Leaf Bolivia	Antiviral Activity	H2O Ext	Cell Culture	0.50 ml	Inactive	vs. MT-2 T-lymphoblastoid cells infected with HIV	K29837
Leaf Juice	Antiviral Activity	Juice	Cell Culture	Not stated	Active	Virus - potato 5 Virus - tobacco mosaic	A03627

Plant Part / Origin	Activity Tested For	Type Extract	Method	Dosage	Results	Notes/Organism tested	Ref #
Dried Leaf + Stem Brazil	Antiviral Activity	MEOH (75%) Ext	Cell Culture	ED50=100mg/ml	Inactive	Virus - <i>Herpes simplex 1</i>	L05437
Fresh Leaf + Stem Greece	Antiphage Activity	H2O Ext	Agar Plate	10 mg/plate	Inactive	6 various bacteriophages	L15988
Leaf Essential Oil Ethiopia	Feeding Deterrent(insect)	Essential Oil	Not stated	Not stated	Active	<i>Musca domestica</i> (common housefly)	J13498
Leaf Essential Oil Ethiopia	Insect Repellent Activity	Essential Oil	Not stated	Not stated	Active	<i>Musca domestica</i> (common housefly)	J13498
Essential Oil Bolivia	Insecticide Activity	Essential Oil	Not stated	1.0 mg/insect	Active	<i>Triatoma infestans</i>	L18411
Seed	Insecticide Activity	Not stated	Plant	Not stated	Active		A03466
Seed Essential Oil Bolivia	Insecticide Activity	Essential Oil	Not stated	50.0 mg/liter	Inactive	<i>Aedes aegypti</i>	L15839
Part Not Specified Sweden	Calcium Antagonistic Effect	Fraction: T-Cadinol	Rat aorta	Not stated	Active	vs. K(+)-induced contractions.	AF1010
Part Not Specified Sweden	Antispasmodic Activity	Fraction: T-Cadinol	Rat aorta	Not stated	Active	vs. K(+)-induced contractions.	AF1011
Part Not Specified Japan	Calcium Antagonistic Effect	Fraction Alpha-eudesmol	Rat	Not stated	Active		AF1012
Part Not Specified Japan	Neuroprotective Activity	Fraction Alpha-eudesmol	Rat	Not stated	Active	vs. brain (rat) edema.	AF1012
Part Not Specified UK	Antimicrobial Activity	Fraction: Carvacrol	Cell Culture	2 mM	Active Active Active Active	<i>Listeria monocytogenes</i> <i>Salmonella enterica</i> <i>Staphylococcus aureus</i> Yeast	AF1013

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