

Biological Activities of Cumaseba (*Swartzia polyphylla*)

Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Bark - Brazil	Cytotoxic Activity	H2O ext DMSO ext	Cell Culture	100 mcg / plate	Active	HT29 and NCI-H460 human cancer cell lines (colon, lung)	SP2005
Heartwood - Peru	Protein Kinase C Inhibition	ETOH ext	In vitro	IC50: 31 mcg/ml	Active		H15918 H18197
Heartwood - Peru	Antibacterial Activity	ETOH ext	Agar Plate	100 mcg / plate	Active Active Inactive Inactive Inactive	<i>Helicobacter pylori</i> <i>Pseudomonas aeruginosa</i> <i>Staphylococcus aureus</i> <i>Bacillus cereus</i> <i>Escherichia coli</i>	SP2002
Heartwood - Peru	Antibacterial Activity	MEOH ext	Agar Plate	Various	Active	Potent activity against various strains of cariogenic bacteria.	H11066
Heartwood - Peru	Antibacterial Activity	Fractions: isoflavanones	Agar Plate	Various	Active	Potent activity against various strains of cariogenic bacteria.	H11066
Heartwood - Peru	Antibacterial Activity	ETOH ext	Agar Plate	Not stated	Active		H15918
Bark - Peru	Antimycobacterial Activity	ETOH	Microplate	MIC: 50 mcg/ml	Active	Exhibited powerful antimycobacterial action against the sensitive H37Rv and multi-drug resistant strains of <i>Mycobacterium tuberculosis</i> .	SP2003 SP2004
Bark - Peru	Antimycobacterial Activity	Fraction: T-cadinol	Microplate	MIC: 50 mcg/ml	Active	<i>Mycobacterium tuberculosis</i>	SP2003
Bark - Peru	Antifungal Activity	ETOH ext	Agar Plate	25 mg / ml	Active	<i>Trichophyton mentagrophytes</i>	SP2003
Bark - Peru	Antifungal Activity	Fractions: Biochanin A	Agar Plate	1 mg / ml	Active	Very active against several strains of filamentous fungi.	SP2003
Heartwood - Peru	Antifungal Activity	ETOH ext	Agar Plate	100 mcg / plate	Active Inactive Inactive	<i>Saccharomyces cerevisiae</i> <i>Epidermophyton floccosum</i> <i>Trichophyton mentagrophytes</i>	SP2002

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 #
Heartwood - Peru	Antifungal Activity	ETOH ext	Agar Plate	Not stated	Active		H15918
Heartwood - Peru	Anti-yeast Activity	ETOH ext	Agar Plate	100 mcg / plate	Active	<i>Candida albicans</i>	SP2002
Bark - Peru	Anti-yeast Activity	ETOH ext	Agar Plate	25 mg / ml	Active	<i>Candida albicans</i>	SP2003
Bark - Peru	Anti-larvicidal Activity	ETOH ext	In vitro	25 mg / ml	Active	<i>Culex quinquefasciatus</i>	SP2003
Bark - Peru	Anti-larvicidal Activity	Fraction: T-cadinol	In vitro	300 mcg/ml	Active	100% mortality after 1 hour. <i>Culex quinquefasciatus</i>	SP2003

Biological Activities of Compounds in Cumaseba (*Swartzia polyphylla*)

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Biochanin A	Anti-edema Activity	IG Mouse & External Ear	1.67 mg - 2.78 mg	Active	vs. croton oil- & arachidonic acid-induced inflammation	K16466
Biochanin A	Anti-inflammatory Activity	IP Rat	20 mg / kg	Active	vs. four lab-induced models of inflammation	L27564
Biochanin A	Protein Kinase Inhibition	In vitro	IC50: < 50 mcg / ml IC50: 26 mcg / ml	Active Active		H15918 T15521
Biochanin A	Anti-spasmodic Activity	In vitro	Various 20 micromols	Active Active	vs. lab-induced spasms in rabbit muscle vs. lab-induced spasms in guinea pig ileum	L26970 L11580
Biochanin A	Cholesterol Lowering Activity	Oral Rat	100 mg / kg 15 mg / kg	Active Active		N05484 K04521
Biochanin A	Oestrogenic Effect	Oral Rat IP Rat	Not stated 300 mcg / animal	Active Active	Response equal to 1 mcg/animal of Estradiol-17-beta or Diethylstilbestrol.	K00033 T04993
Biochanin A	Progestagenic Effect	Cell Culture	3.5 nanomols/liter	Active		T03820
Biochanin A	PSA Inhibition Activity	Cell Culture	5 micromol	Active	Lowered PSA and 5-alpha-reductase in prostate cancer cells and benign prostatic hyperplasia homeogenates by 54%.	K23978 J16207

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Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Biochanin A	Antimutagenic Activity	IG Rat	50 mg / kg	Active	vs. lab-induced mammary gland mutagenesis	J16387
Biochanin A	Antiproliferation Activity	Cell Culture	IC50: 0.18 micromols IC50: 17 mcg/ml IC50: 0.47 micromols	Active Active Active	Human tumor cell line CA-INCAP tumor cells Human prostate cancer cell line	L14495 L25813 J17891
Biochanin A	Anti-tumor Activity	IP Mouse	400 mcg / animal	Active Active Active	CA-HSC-45M2 cancer CA-SH101-P4 cancer vs. xenograph tumors	K23604 K23604 L25813
Biochanin A	Cancer Inhibition / Prevention Activity	PO Mouse IG Mouse PO Mouse	20 ppm 500 mg / kg Not stated	Active Active Active	Prevented lab-induced liver tumors. vs. lab-induced tumors Prevented virus-induced breast cancer.	K23547 L20102 L25360
Biochanin A	Cytotoxic Activity	Cell Culture	50 micomols 10 micromols IC50: 22 mcg/ml	Active Active Active	Colon cancer cell line Colon cancer cell line Breast cancer cell line	J10590 J16030 M27396
Biochanin A Naringenin	P-glycoprotein Inhibition	Cell Culture	Various	Active	Both chemicals reduced p-glycoprotein in multi-drug resistant breast cancer cells by over 2 times the control drug used (verapamil).	SP2006
Biochanin A	Anti-giardial Activity	In vitro	IC50: 3.5 mcg/ml	Active	<i>Giardia intestinalis</i>	L12374
Biochanin A	Anti-fungal Activity	Agar Plate	5 mcg / plate 25 mcg/ sq cm	Active Active	<i>Cladosporium cladosporoides</i> <i>Cladosporium herbarum</i>	H24620 M26097

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