

Biological Activities of Pau d'Arco (*Tabebuia impetiginosa*)

Part – Origin	Activity Tested for	Type Extract	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Bark Argentina	Anticoagulant Activity	Decoction	Agar Plate	Not Stated	Inactive	<i>Pseudomonas aeruginosa</i> .	K17523
Not Stated Brazil	Mutagenic Activity	Infusion	Agar Plate	50.0 mg/Plate	Equiv.	<i>Salmonella typhimurium</i> TA98. Metabolic activation required to obtain positive results vs. 2-amino-3,7,8-trimethylimidazo[4,4-f]quinoxaline-induced mutagenesis.	K26457
Not Stated Brazil	Mutagenic Activity	Infusion	Agar Plate	50.0 mg/Plate	Weak Activity	<i>Salmonella typhimurium</i> TA98. Metabolic activation required to obtain positive results vs. 2-amino-3,4,7,8-tetramethyl-3h-imidazo-[4,5-f]quinoxaline-inoxaline-induced mutagenesis.	K26457
Not Stated Brazil	Antimutagenic Activity	Infusion	Agar Plate	50.0 mg/Plate	Weak Activity	<i>Salmonella typhimurium</i> TA98. Metabolic activation required to obtain positive results vs. 2-amino-3-methylimidazo[4,5-f]quinoline-2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine- and 3-amino-1,4-dimethyl-5h-pyrido[4,3-b] indole(TRP-P-1)-induced mutagenesis.	K26457
Bark Argentina	Antibacterial Activity	Decoction	Agar Plate	Not Stated	Inactive	<i>Pseudomonas aeruginosa</i> .	K17523
Bark Argentina	Antibacterial Activity	Hot H2O Ext Hot H2O Ext	Agar Plate	62.5 mg/ml 62.5 mg/ml	Active Inactive	<i>Staphylococcus aureus</i> . <i>Escherichia coli</i> .	K14683 K14683
Bark Argentina	Antibacterial Activity	H2O Ext	Agar Plate	1.0 mg/ml LC50 = 10.3 mcg/ml	Inactive Active	<i>Salmonella typhi</i> .	J11153
Bark Not Stated	Antibacterial Activity	Not Stated	Agar Plate	Not Stated	Active	<i>Helicobacter pylori</i> . Zone of inhibition = 32.	AU1008
Wood Brazil	Antibacterial Activity	Not Stated	Not Stated	Not Stated	Active	<i>Brucella</i> .	AU1016
Bark Argentina	Antifungal Activity	Hot H2O Ext	Agar Plate	62.5 mg/ml	Inactive	<i>Aspergillus niger</i> .	K14683

Part – Origin	Activity Tested for	Type Extract	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Not Stated Spain	Antifungal Activity	H2O Ext MEOH Ext CH2Cl2 Ext	Not Stated	Not Stated	Strong Activity Strong Activity Active	11 fungal strains comprising several filamentous fungi and yeasts.	AU1024
Bark Brazil	Anti-inflammatory Activity	H2O Ext	Oral Rat	200 mg/kg 400 mg/kg	Active Active	Reduced formalin induced edema by 49.3% (200 mg/kg) and 53.7% (400 mg/kg).	AU1021
Bark Brazil	Anti-inflammatory Activity	Not Stated	Not Stated / Rat	Not Stated	Active	vs. formalin-induced pedal edema.	A12697
Bark Brazil	Anti-inflammatory Activity	H2O Ext	Oral Rat	100 mg/kg 200 mg/kg 400 mg/kg	Weak Activity Active Weak Activity	Reduced the nociception produced by acetic acid by 49.9% (100 mg/kg), 63.7% (200 mg/kg) and 43.8% (400 mg/kg).	AU1021
Bark Brazil	Anti-inflammatory Activity	H2O Ext	Oral Rat	200 mg/kg	Active	Inhibited edema by 12.9% vs. rat paw edema model.	AU1021
Bark Brazil	Anti-inflammatory Activity	H2O Ext	Rat	Not Stated	Active	vs. paw edema test induced by carrageenan.	AU1021
Bark Brazil	Immunologic Effects (Unspecified)	Naphthoquinone Fraction	Not Stated	Variable	Active	Data incomplete—derived from an abstract.	T11808
Bark Brazil	Antitumor Activity	H2O Ext	IG Rat Oral Rat Oral Rat	150.0 mg/kg 200.0 mg/kg 400.0 mg/kg	Active Active Active	Sarcoma (Yoshida ASC). 85% TWD dosing for 9 days. Sarcoma—WM256 (IM). 44% TWD dosing for 9 days. Sarcoma (Yoshida ASC). 52% TWD dosing for 9 days.	A03256
Bark Brazil	Cytotoxic Activity	MeOH (75%) Ext	Cell Culture	IC50 = 1 mg/ml	Inactive	In vero cells.	L05437
Bark Brazil	Smooth Muscle Relaxant Activity	H2O Ext	Not Stated / Guinea Pig Not Stated / Rat	Not Stated Not Stated	Inactive Inactive	Ileum. Ileum.	A03256
Bark Brazil	Smooth Muscle Stimulant Activity	H2O Ext	Not Stated / Rat	Not Stated	Inactive	Ileum.	A03256
Bark Korea	Antioxidant Activity	Hot H2O Ext	Not Stated	1000 g/ml 5 g/ml	Active Active	Inhibited the formation of conjugated diene hydroperoxides. Inhibited the oxidation of hexanal.	AU1023

Biological Activities for Compounds in Pau d'Arco (*Tabebuia impetiginosa*)

(Please note: The following is just a representation of some of the published research on compounds in pau d'arco. Over 200 clinical studies have been published on various phytochemicals naturally found in pau d'arco, including those compounds shown below.)

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Lapachol compounds	Toxicity (general)	Cell Culture	IC50 = 0.35-0.7 mcM	Active	Caused damage to keratinocyte cell membrane.	AU1025
Lapachol	Toxicity (general)	Oral Rat	100 mg/kg	Active	Fetotoxic, leading to fetal growth retardation. Non-toxic to mothers.	AU1050
Lapachol	Toxicity (general)	Not Stated Monkey	130 mg/l	Active	Acute cardiac toxicity.	AU1012
Lapachol	Toxicity (general)	Not Stated	Blood levels > 20 mcg/ml	Active	Mild effects of nausea, vomiting and anticoagulant effects due to anti-vitamin K activity.	J04271
Lapachol	Toxicity (general)	Not Stated Mice Not Stated Rat Not Stated Dog Not Stated Monkey	LD50 = 0.621 g/kg LD50 = >2.4 g/kg 0.25-2 g/kg 0.0625-1 g/kg	Active	Signs of toxicosis = anemia, reticulocytosis, normoblastosis, pallor of mucous membranes, bilirubinuria, and proteinuria.	AU1036
Lapachol	Toxicity (general)	Not Stated Monkey	250 mg/kg	Active	Reversible anemia, reticulocytosis, proteinuria, and bilirubinuria.	AU1037
Lapachol	Toxicity (general)	Not Stated Dog Not Stated Monkey	0.25-2 mg/kg 0.25 g/kg 0.5 g/kg 1 g/kg	Inactive Active Active Active	No lethal effect. Anemia, reticulocytosis, normoblastosis, thrombocytosis, and transient leukocytosis. Emesis, anorexia, paleness of mucus membranes, reversible anemia, reticulocytosis, proteinuria, bilirubinuria and red-brown urine discoloration seen. Death. Death.	AU1038
Beta-lapachone	Toxicity (general)	Oral Dog Oral Rat Not Stated Mice Not Stated Chicken	100 mg/kg 200 mg/kg Not Stated Not Stated	Inactive Weak Activity Inactive Inactive	Higher doses caused gastric ulceration and loss of erythrocytes but with no signs of bone marrow suppression.	AU1007
Lapachol	Abortifacient Activity	Not Stated Rat	10 mg in 0.5 ml Hydroalcoholic Ext	Active	Fetal mortality (99.2%). Mothers unaffected.	AU1052
Lapachol	Coagulation Activity	In Vitro Not Stated Dog	0.02-0.6 mg/ml IV 7-20 mg/kg	Active Inactive	Coagulation time increased. No effect seen.	AU1034

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Lapachol	Anticoagulant Activity	Not Stated Rat Not Stated Human	Not Stated Not Stated	Active Active		AU1039
Naphthoquinones	Antibacterial Activity	In Vitro	Not Stated	Active Strong Activity	<i>Staphylococcus aureus</i> . Penicillin-resistant strains.	AU1041
Kigelinone + Dehydro-alpha- lapachone + Lapachol	Antibacterial Activity	Agar Plate	Not Stated	Active		AU1053
Lapachone	Antibacterial Activity	Agar Plate	Not Stated Not Stated Not Stated	Active Active Active	<i>Bacillus subtilis</i> . <i>Staphylococcus aureus</i> . <i>Brucella</i> .	AU1017
Xiloidone	Antibacterial Activity	Not Stated	Not Stated	Active	<i>Brucella</i> sp.	AU1031
Furanonaphthoquinones	Antibacterial Activity	Agar Plate	MIC = 1.56–25 mcg/ml	Active Active Weak Activity	Gram-positive bacteria. Methicillin-resistant <i>Staphylococcus aureus</i> . Methicillin-sensitive <i>S. aureus</i> .	AU1028
Furanonaphthoquinones	Antibacterial Activity	Agar Plate	MIC = 3.13 mcg/ml MIC = 6.25 mcg/ml MIC = 6.25 mcg/ml MIC = 25 mcg/ml MIC = 6.25 mcg/ml MIC = 25 mcg/ml MIC = 25 mcg/ml MIC = 25 mcg/ml MIC = 1.56 mcg/ml MIC = 25 mcg/ml MIC = 0.78 mcg/ml MIC = 0.78 mcg/ml MIC = 1.25 mcg/ml MIC = 0.05 mcg/ml MIC = 0.1 mcg/ml	Active	<i>Staphylococcus aureus</i> . <i>Staphylococcus epidermidis</i> . <i>Streptococcus pneumoniae</i> . <i>Streptococcus pyogenes</i> . <i>Streptococcus mutans</i> . <i>Streptococcus salivarius</i> . <i>Enterococcus faecium</i> . <i>Enterococcus faecalis</i> . <i>Bacillus subtilis</i> . <i>Clostridium perfringens</i> . <i>Escherichia coli</i> . <i>Citrobacter freundii</i> . <i>Enterobacter cloacae</i> . <i>Serratia marcescens</i> . <i>Klebsiella pneumoniae</i> .	AU1028
Lapachol	Antimicrobial Activity	In Vitro	MIC = 20–100 mcg/ml	Active	<i>Brucella</i> sp. <i>Neisseria catarrhalis</i> .	AU1032

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Lapachol	Antimicrobial Activity	Agar Plate	MIC = 60–80 mcg/ml MIC = 40–60 mcg/ml MIC = 40–60 mcg/ml MIC = 60–80 mcg/ml MIC = 40–60 mcg/ml MIC = > 100 mcg/ml MIC = 80–100 mcg/ml MIC = 80–100 mcg/ml MIC = 60–80 mcg/ml MIC = > 100 mcg/ml MIC = 40–60 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = 15–20 mcg/ml MIC = 15–20 mcg/ml MIC = 10–15 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml	Active	<i>Bacillus subtilus.</i> <i>B. mycoides.</i> <i>B. anthracis.</i> <i>Staphylococcus aureus.</i> <i>Sar. lutea.</i> <i>Streptococcus hemolyticus.</i> <i>M. tub. hom.</i> <i>M. smegmatis.</i> <i>M. phisi.</i> <i>N. asteroides.</i> <i>N. catarrhalis.</i> <i>E. coli.</i> <i>K. pneumonia.</i> <i>S. typhosa.</i> <i>Br. suis.</i> <i>Br. abortus.</i> <i>Br. melirensis.</i> <i>C. albicans.</i> <i>C. kruzei.</i> <i>C. neoformans.</i>	ZZ1064
Alpha-lapachone	Antimicrobial Activity	Agar Plate	MIC = 40–50 mcg/ml MIC = 40–50 mcg/ml MIC = 40–50 mcg/ml MIC = 30–40 mcg/ml MIC = 30–40 mcg/ml MIC = 60–80 mcg/ml MIC = 30–50 mcg/ml MIC = 30–50 mcg/ml MIC = 20–30 mcg/ml MIC = 60–80 mcg/ml MIC = 80–100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = 20–30 mcg/ml MIC = 30–40 mcg/ml MIC = 30–40 mcg/ml MIC = 80–100 mcg/ml MIC = 80–100 mcg/ml MIC = 50–80 mcg/ml	Active	<i>Bacillus subtilus.</i> <i>B. mycoides.</i> <i>B. anthracis.</i> <i>Staphylococcus aureus.</i> <i>Sar. lutea.</i> <i>Streptococcus hemolyticus.</i> <i>M. tub. hom.</i> <i>M. smegmatis.</i> <i>M. phisi.</i> <i>N. asteroides.</i> <i>N. catarrhalis.</i> <i>E. coli.</i> <i>K. pneumonia.</i> <i>S. typhosa.</i> <i>Br. suis.</i> <i>Br. abortus.</i> <i>Br. melirensis.</i> <i>C. albicans.</i> <i>C. kruzei.</i> <i>C. neoformans.</i>	ZZ1064

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Furanonaphthoquinones	Antibacterial Activity	Agar Plate	MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml MIC = > 100 mcg/ml	Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive	<i>Klebsiella oxytoca.</i> <i>Proteus vulgaris.</i> <i>Morganella morganii.</i> <i>Acinetobacter calcoaceticus.</i> <i>Pseudomonas aeruginosa.</i> <i>Neisseria gonorrhoeae.</i> <i>Haemophilus influenzae.</i> <i>Moraxella catarrhalis.</i> <i>Campylobacter jejuni.</i> <i>Helicobacter felis.</i> <i>Helicobacter pylori.</i>	AU1028
Furanonaphthoquinones	Antifungal Activity	Agar Plate	MIC = 4 mcg/ml MIC = > 8 mcg/ml MIC = 4 mcg/ml MIC = > 8 mcg/ml MIC = 2 mcg/ml MIC = 0.5 mcg/ml MIC = 2 mcg/ml MIC = 1 mcg/ml MIC = 4 mcg/ml MIC = 6 mcg/ml MIC = 6 mcg/ml	Active	<i>Candida albicans.</i> <i>Candida tropicalis.</i> <i>Candida glabrata.</i> <i>Candida krusei.</i> <i>Candida utilis.</i> <i>Cryptococcus neoformans.</i> <i>Saccharomyces cerevisiae.</i> <i>Aspergillus fumigatus.</i> <i>Aspergillus niger.</i> <i>Trichophyton mentagrophytes.</i> <i>Trichophyton rubrum.</i>	AU1028
Beta-lapachone	Antifungal Activity	Agar Plate	Not Stated	Active	<i>Candida albicans.</i> <i>C. ropicalis.</i> <i>Trichophyton mentagrophytes.</i> <i>T. glabrata.</i>	AU1029
Lapachol	Antifungal Activity	Agar Plate	Not Stated	Weak Activity	<i>Candida albicans.</i> <i>C. ropicalis.</i> <i>Trichophyton mentagrophytes.</i> <i>T. glabrata.</i>	AU1029
Lapachol	Antiviral Activity	Cell Culture Chick embryos	Not Stated	Not Stated Not Stated Not Stated Active Active Not Stated Not Stated Active	<i>Adenovirus type 5.</i> <i>Herpes simplex type 1.</i> <i>Western equine encephalomyelitis virus.</i> <i>Vesicular stomatitis virus Brazil.</i> <i>Poliovirus type 1.</i> <i>Echovirus type 19.</i> <i>Coxsackievirus B4.</i> <i>Influenza virus.</i>	AU1033
Beta-lapachone	Antiviral Activity	In Vitro	Not Stated	Active	HIV-1 replication.	AU1058

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
2-methylnaphtho(2,3-b)furan-4,9-dione	Antiviral Activity	In Vitro	3 mcg/ml	Active	Japanese encephalitis virus. Expression of viral proteins and replication of virus inhibited.	AU1049
Naphthoquinones	Antimalarial Activity	Cell Culture	20 mcM	Active	<i>Plasmodium falciparum</i> , including drug resistant strains.	AU1019
Lapachol			20 mcM	Weak Activity	<i>Plasmodium falciparum</i> (20% inhibition).	
Lapachol	Antiparasitic Activity	Not Stated Mice	Not Stated	Active	Complete protection against <i>Schistosoma mansoni</i> infection.	AU1030
1,4-naphthoquinone	Antiparasitic Activity	Not Stated Mice	Not Stated	Weak Activity	Partial protection against <i>Schistosoma mansoni</i> infection.	AU1030
Naphthoquinones	Antiparasitic Activity	In Vitro	IC50 = 0.12 mcM IC50 = 0.045 mcM	Active Active	<i>Trypanosoma brucei brucei</i> . <i>Trypanosoma brucei rhodesiense</i> .	AU1048
Beta-lapachone	Anti-trypanosomal Activity	In Vitro	Not Stated	Active	Trypanosoma cruzi.	AU1013
Lapachol	Molluscicidal Activity	Not Stated Snails	LC90 = < 7 ppm LC90 = < 3 ppm	Active Active	Adult snail. Snail egg masses.	AU1051
Lapachol	Antineoplastic Activity	Cell Culture	Not Stated Not Stated	Active Active	Sarcoma 180. Ehrlich carcinoma.	AU1035
Beta-lapachone	Antineoplastic Activity	Cell Culture	IC50 = 1–10 mcM	Active	Human cancer cell lines.	AU1006
2,8-dihydroxy-1, 4-naphthoquinone	Antiproliferative Activity	Cell Culture	IC50 = 0.35 mcM	Active	Inhibited keratinocyte growth.	AU1025
Beta-lapachone	Cytotoxic Activity	Cell Culture	Not Stated	Active Inactive	Promyelocytic leukemia, malignant glioma, hepatoma, prostate, colon, breast, ovarian, pancreatic cancer, and multiple myeloma cell lines including drug-resistant lines. Normal or proliferating human PBMC.	AU1006
Beta-lapachone	Cytotoxic Activity	Cell Culture	IC100 = 4-8 mcM Not Stated IC100 = 16 mcM IC100 = 16 mcM IC100 = 128 mcM IC100 = > 32 mcM	Active Active Active Active Inactive Inactive	Androgen independent human prostate tumor cells PC-3 & DU145. LNCaP cells. 21MT (human breast carcinoma). AD2780s (human ovary carcinoma). SW116 (human colon adenocarcinoma). H596, H520 (human lung carcinoma), 293 (human kidney epithelial cell line).	AU1007

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Beta-lapachone	Cytotoxic Activity	Cell Culture	4 mcM	Active	Enhanced the lethality of x-rays against human laryngeal epidermoid carcinoma (Hep-2) cells.	AU1018
Beta-lapachone	Cytotoxic Activity	Cell Culture	Not Stated	Active	Enhanced the cytotoxic effects of DNA-damaging agents that induce DNA strand incisions (x-rays) against radioresistant human malignant melanoma (U1-Mel).	AU1018
Beta-lapachone	Cytotoxic Activity	Not Stated	Not Stated	Active	Yoshida tumor and Walker 256 carcinosarcoma.	AU1027
Beta-lapachone	Cytotoxic Activity	Not Stated	Not Stated	Active	Inhibits DNA synthesis, topoisomerases I and II and poly(ADP-ribose) polymerase.	AU1027
Beta-lapachone	Cytotoxic Activity	Not Stated	Not Stated	Active	Epidermoid laryngeal cancer, prostate, colon, ovary and breast cancer and various leukemia cells.	AU1027
Beta-lapachone	Cytotoxic Activity	Cell Culture	Not Stated	Active Inactive	Induced apoptosis of human prostate cancer cells PC-3 (in 62% cells by 24 hrs.), DU145 and LNCaP (in 68% of cells by 24 hrs.). Apoptosis not seen in 21-MT (human breast epithelial cell line), H520 (human lung carcinoma cell lines), SW1116 (human colon adenocarcinoma), A2780s (human ovary carcinoma).	AU1007
Beta-lapachone	Cytotoxic Activity	Cell Culture Implanted Into Mice	Not Stated	Active	Enhanced lethality of x-rays and alkylating agents to tumor cells; inhibition of DNA lesion repair.	AU1054
Beta-lapachone	Cytotoxic Activity	IP Rat	50 mg/ml	Active Active	Rat prostate adenocarcinoma Dunning R-3327. Malignant & metastatic prostate adenocarcinoma RT-3.1.	AU1007
Lapachol	Cytotoxic Activity	Not Stated Human Adult	20–30 mg/kg	Active	Tumors shrunk and feelings of pain reduced. Adenocarcinoma of the liver, kidney, breast, prostate, and squamous cell carcinoma of the palate and uterine cervix.	AU1009
Lapachol	Cytotoxic Activity	Cell Culture	Not Stated	Active	Melanoma (4 cell lines) and renal cell carcinoma line (Caki-2).	AU1020
Lapachol	Cytotoxic Activity	Not Stated Mice Not Stated Rat	Not Stated	Inactive Active	Sarcoma 180. Yoshida sarcoma and Walker 256 carcinosarcoma.	AU1032

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Saponins	Cytotoxic Activity	IP Mouse	250 mg/kg	Active	In mice with sarcoma-180 the saponins prolonged survival by 27.8%.	K22244
Naphthoquinones	Cytotoxic Activity	Cell Culture	Not Stated	Active Active Active	A-549 human lung adeno-carcinoma. MCF-7 human breast carcinoma. HT-29 human colon carcinoma.	AU1026
Naphthoquinones	Cytotoxic Activity	Cell Culture	IC50 = 1.1–10.8 mcM IC50 = 2.5 – >32 mcM	Active Active	MCF7. HT29 human colon, A549 human lung, CEM leukemia, and AT3.1 rat prostate cancer cells.	AU1057
Anthraquinones	Cytotoxic Activity	Cell Culture	0.02 mcM 0.05 mcM	Active Active	Rat gioma C6 cells and human hepatoma G2 cells.	AU1047
Beta-lapachone	Necrotic Activity	Cell Culture	Not Stated	Active	Human osteocarcinoma cells. Necrosis rather than apoptosis induced.	AU1055
Lapachol	Antitumor Activity	Oral Not Stated IP Not Stated SC Not Stated IM Not Stated	45–60 mg/kg	Active	Walker 256 carcinosarcoma.	AU1040
Furanonaphthoquinones	Antitumor Activity	Cell Culture	IC50 = 10.4–14.1	Active Inactive	Human cervical cancer, lung adenocarcinoma, uterine endocervical, tracheal, and bronchiolar epithelial cells and fibroblasts. Prostate, cholangio, colon, laryngeal, and tongue carcinoma cell lines and two osteosarcoma cell lines. Normal cells.	AU1042
2-methylnaphtho (2,3-b)furan-4,9-dione	Antitumor Activity	Cell Culture	3–5 mcg/ml 20 mcg/ml	Active Inactive Active	HeLa human cervical cells. Normal cells. Normal cells.	AU1043
Lapachol	Antileukemic Activity	Not Stated Mice	Not Stated	Active	Increased life span by over 80% in mice inoculated with leukemic cells.	AU1010
Beta-lapachone	Antileukemic Activity	Cell Culture	Not Stated	Active	Induced apoptosis of human leukemia cell line HL-60.	AU1007
1-(1-hydroxyethyl)furonaphthoquinone	Antileukemic Activity	Cell Culture	IC50 = 0.8 mcg/ml	Active	Mouse leukemia cell L-5178Y.	K09729
Lapachol	Antileukemic Activity	Not Stated Mice	Not Stated	Active	Mouse lymphocytic leukemia P-388. Life span increased 80% over controls.	AU1010

Compound	Activity Tested For	Test Model	Dosage	Result	Notes/Organism Tested	Ref #
Beta-lapachone	Cytostatic Activity	IP Rat	50 mg/kg	Active	Prostate weight in rats treated was 203 g compared to controls at 345 g.	AU1007
Beta-lapachone	Cytostatic Activity	Not Stated Rat	500 mg/kg 250 mg/kg	Strong Activity Active	Human prostate adenocarcinoma PC-3. Human prostate adenocarcinoma PC-3.	AU1007
Furanonaphthoquinones	Immunomodulating Activity	Not Stated	Not Stated	Active	Human granulocytes and lymphocytes.	ZZ1099
Naphthoquinones	Immunostimulating Activity	In Vitro	10 ng–10 fg/ml	Active		AU1044
Naphthoquinones	Immunosuppressive Activity	In Vitro	100 mcg–10 ng/ml	Active		AU1044
Lapachol	Anti-ulcer Activity	Oral Rat Not Stated Guinea Pig	10 mg/kg	Active	Gastric and duodenal ulcers. Reversed aspirin-induced changes in peptic activity, protein and sialic acid.	AU1015
Cyclopentene dialdehydes	Anti-inflammatory Activity	Not Stated	Not Stated	Active		H26004
Beta-lapachone	Anti-inflammatory Activity	Cell Culture	1–4.5 mcM	Active	Inhibited LPS-induced nitric oxide synthase in rat alveolar macrophages and aortic rings.	AU1056
Beta-lapachone	Anti-psoriatic Activity	Cell Culture	IC50 = 0.7 mcM	Active	Antiproliferative to the human keratinocyte cell line HaCaT with antipsoriatic activity comparable to the drug anthralin.	AU1025
Naphthoquinones	Electron Transport Inhibitors	Cell Culture	IC50 = 15-82.5 mcM	Active	Rat liver mitochondria.	AU1026

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