

# Dr. Duke's Phytochemical and Ethnobotanical Databases



## Chemicals and their Biological Activities in: *Pogostemon cablin* (BLANCO) BENTH. (Lamiaceae) -- Patchouli

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### Chemicals

**1,10-EPOXY-ALPHABULNESENE *Plant*:**

No activity reported.

**1-ALPHA,5-ALPHA-EPOXY-ALPHA-GUAIENE *Plant*:**

No activity reported.

**1-BETA,5-BETA-EPOXY-ALPHA-GUAIENE *Plant*:**

No activity reported.

**2-METHYL-BUTYRIC-ACID *Leaf*:**

No activity reported.

**2-METHYLHEXANOIC-ACID *Leaf*:**

No activity reported.

**4-METHYL-PENTANOIC-ACID *Leaf*:**

No activity reported.

**ALPHA-BULNESENE *Plant*:**

No activity reported.

**ALPHA-BULNESENE-OXIDE *Plant*:**

No activity reported.

**ALPHA-BULNESONE *Plant* 1,260 - 5,460 ppm**

No activity reported.

**ALPHA-GUAIENE *Plant* 1,261 - 5,460 ppm**

No activity reported.

**ALPHA-GUAIENE-OXIDE *Plant*:**

No activity reported.

**ALPHA-PATCHOULENE *Plant*:**

No activity reported.

**ALPHA-PINENE Plant:**

Allelochemic; Allergenic; Antiacne; Antibacterial; Antifeedant; Antiflu; Antiinflammatory 500 mg/kg; Antipneumonic; Antiseptic; Antispasmodic; Antistaphylococcic; Antiviral; Cancer-Preventive; Coleoptophile; Expectorant; FLavor FEMA 15-150; Herbicide  $IC_{50}=30\ \mu M$ ; Insecticide 0.82  $\mu M/fly$ ; Insectifuge 50 ppm; Insectiphile; Irritant; P450-2B1-Inhibitor  $IC_{50}=0.087\ \mu M$ ; Perfumery; Pesticide; Sedative; Spasmodic; Tranquilizer; Transdermal

**APIGENIN Plant:**

11B-HSD-Inhibitor; AntiADD; Antiaflatoxin  $IC_{50}=2.57\ ppm\ IC_{50}=9.52\ \mu M$ ; Antiaggregant; Antiaging; Antiallergic; Antiangiogenic 4  $\mu M$ ; Antiarrhythmic; Antibacterial; Anticancer (Lung); Anticomplementary; Antidermatitic; Antiestrogenic; Antiherpetic 20-54  $\mu g/ml$ ; Antihistaminic  $IC_{50}=10-35\ \mu M$ ; AntiHIV  $IC_{50}=143\ \mu g/ml\ IC_{72}=200\ \mu g/ml$ ; Antiinflammatory = indomethacin  $IC_{65}=1,000\ \mu M$ ; Antileukemic 20-50  $\mu M$ ; Antimelanomic 1-50  $\mu M$ ; Antimetastatic; Antimutagenic  $ID_{50}=0.55\ \mu g/ml\ ID_{50}=10-40\ nM$ ; Antioxidant 1.5 x Vit. E  $IC_{28.5}=62.5\ \mu g/ml$ ; Antiperistaltic; Antiproliferant 1-50  $\mu M\ IC_{50}=155\ \mu M$ ; Antispasmodic  $EC_{50}=1-5\ \mu M$ ; Antistress 10 mg/kg; Antithyroid; Antitumor 1-50  $\mu M$ ; Antitumor (Breast); Antitumor (Lung); Antitumor (Skin); Antiviral 20-54  $\mu g/ml$ ; Anxiolytic 10 mg/kg; Apoptotic 12-60  $\mu M$ ; Aromatase-Inhibitor  $IC_{65}=1\ \mu M/l$ ; Beta-Glucuronidase-Inhibitor  $IC_{50}=\sim 40\ \mu M$ ; Calcium-Antagonist?; Cancer-Preventive; Choleric; CNS-Depressant; COX-1-Inhibitor  $IC_{65}=1,000\ \mu M$ ; COX-2-Inhibitor  $<40\ \mu M\ IC_{50}=<15\ \mu M\ IC_{65}=1,000\ \mu M$ ; Cyclooxygenase-Inhibitor; Cytochrome-P450-1A1-Inhibitor; Cytotoxic 1-50  $\mu M\ IC_{50}=9.5\ \mu M\ IC_{88}=10\ \mu g/ml$ ; Deiodinase-Inhibitor; Differentiator  $IC_{40}=40\ \mu M\ MIC=30\ \mu M$ ; Diuretic; DNA-Protective; Estrogenic 16% genistein  $EC_{50}=0.1-25\ \mu M/l\ EC_{50}=1\ \mu M$ ; HIF-1alpha-Inhibitor; Hyaluronidase-Inhibitor  $IC_{50}+=50-250\ \mu M$ ; Hypotensive; ICAM-1-Inhibitor; IKK-Inhibitor; iNOS-Inhibitor  $IC_{50}=<15\ \mu M$ ; Inotropic; Interleukin-6-Inhibitor; MAO-Inhibitor; MAPK-Inhibitor; Musculotropic; Mutagenic; Myorelaxant; NADH-Oxidase-Inhibitor; NF-kB-Inhibitor; NO-Synthase-Inhibitor 5-50  $\mu M$ ; Nodulation-Signal; Ornithine-Decarboxylase-Inhibitor; P21-Inducer 10-70  $\mu M$ ; Pesticide; PKC-Inhibitor  $IC_{50}=10\ \mu M$ ; Polyamine-Synthesis-Inhibitor; Progestational; Protein-Kinase-C-Inhibitor  $IC_{50}=10-40\ \mu M$ ; PTK-Inhibitor 10-100  $\mu M$ ; Quinone-Reductase-Inducer 20  $\mu M$ ; Radioprotective; Sedative 30-100 mg/kg; Sunscreen; TNF-alpha-Inhibitor  $IC_{50}=3.27\ \mu M$ ; Topoisomerase-I-Inhibitor; Topoisomerase-II-Inhibitor 50  $\mu g/ml\ IC_{28}=18\ \mu M\ IC_{45}=180\ \mu M$ ; Uterotrophic  $EC_{50}=0.1-25\ \mu M/l$ ; Vasodilator; VEGF-Inhibitor  $IC_{50}=2-7\ \mu M$ ; Xanthine-Oxidase-Inhibitor 0.36  $\mu M$

**APIGENIN-7-O-BETA-D-(-6"-P-COUMAROYL)-GLUCOSIDE Plant:**

No activity reported.

**APIGENIN-7-O-BETA-GLUCOSIDE Plant:**

No activity reported.

**AZULENE Plant:**

Antiallergic; Antibacterial 500 ppm; Antihistaminic; Antiinflammatory; Antipyretic; Antiseptic 6-500; Antispasmodic; Antiulcer  $ED_{50}=150\ (orl)$ ; Hepatoregenerative; Pesticide

**BENZALDEHYDE Plant:**

Allergenic; Anesthetic; Antibacterial; Anticancer; Antimutagenic; Antipeptic; Antiseptic; Antispasmodic; Antitumor; Candidicide; FLavor FEMA 150-800;

Immunostimulant; Insecticide; Insectifuge 50 ppm; Motor-Depressant; Narcotic; Nematicide  $MLC=1\text{ mg/ml}$ ; Pesticide; Sedative; Termiticide  $LD100=5\text{ mg/g}$ ; Tyrosinase-Inhibitor  $ID50=0.82\text{ mM}$   $ID50=820\text{ uM}$   $ID50=830\text{ uM}$   $ID50=87\text{ ug/ml}$

**BETA-ELEMENE Plant:**

Anticancer (Cervix); Antigliomic; Antiproliferant; Antitumor (Cervix); Apoptotic

**BETA-PATCHOULENE Plant 120 - 464 ppm**

No activity reported.

**BETA-PINENE Plant:**

Allergenic; Antiinflammatory; Antiseptic; Antispasmodic; Candidicide; FLavor *FEMA* 15-600; Herbicide; Insectifuge; Irritant; Perfumery; Pesticide; Spasmogenic; Transdermal

**BULNESOL Plant:**

No activity reported.

**CADINENE Plant:**

Antifeedant; FLavor *FEMA* 400-4,000; Perfumery; Pesticide

**CAMPHENE Plant:**

Allelopathic; Antilithic?; Antioxidant; Expectorant; FLavor *FEMA* 15-175; Hypocholesterolemic?; Insectifuge; Pesticide; Spasmogenic

**CARYOPHYLLENE Plant:**

Aldose-Reductase-Inhibitor; Allergenic; Analgesic; Antiacne; Antiasthmatic; Antibacterial; Anticariogenic  $MIC=>1,600\text{ ug/ml}$ ; Antidermatitic; Antiedemic; Antifeedant 500 ppm; Antiinflammatory  $IC50=100\text{ uM}$ ; Antileishmanic; Antionychyotic; Antiproliferant; Antispasmodic; Antistaphylococcic; Antistreptococcic; Antitumor; Antiulcer; Candidicide; FLavor *FEMA* 20-200; Fungicide; Gastroprotective; Insectifuge; Irritant; Larvicide; Mosquitocide; Perfumery; Pesticide; Sedative; Termitifuge

**CARYOPHYLLENE-OXIDE Plant:**

Antiedemic; Antifeedant; Antiinflammatory; Antitumor; Calcium-Antagonist  $ED50=32\text{ uM}$   $gpg$ ; Fungicide; Insecticide; Pesticide

**CINNAMALDEHYDE Plant:**

Acaricide; Adrenergic; Allelochemic  $IC100=2.5\text{ mM}$ ; Allergenic; Anesthetic; Antiaggregant 200 uM; Antibacterial  $MIC=250-1,000\text{ ug/ml}$ ; Antienterococcic  $MIC=250\text{ ug/ml}$ ; Antiescherichic  $MIC=500\text{ ug/ml}$ ; Antiherpetic; Antiinflammatory; Antiklebsielllic  $MIC=1,000\text{ ug/ml}$ ; Antileukemic; Antimutagenic; Antipneumonic; Antipseudomonic; Antipyretic; Antisalmonella  $MIC=500\text{ ug/ml}$ ; Antispasmodic; Antistaphylococcic  $MIC=250\text{ ug/ml}$ ; Antiulcer 500 mg/kg/orl; Antiurease; Antiviral; Cancer-Preventive; Candidicide  $MIC=16-40\text{ ppm}$ ; Choloretic 500 mg/kg/orl; Chronotropic; Circulatory-Stimulant; CNS-Depressant; CNS-Stimulant; COX-2-Inhibitor  $IC50=245\text{ uM}$ ; Cyclooxygenase-Inhibitor; Cytotoxic  $ED50=5-60\text{ ug/ml}$ ; FLavor; Fungicide 1.7-250 ppm  $MIC=16-40\text{ ppm}$ ; Herbicide; Histaminic; Hypoglycemic; Hypotensive; Hypothermic; Inotropic; Insecticide; Irritant; Lipoygenase-Inhibitor; Monoaminergic; Mutagenic; Nematicide 100 ug/ml; Perfumery; Pesticide; Sedative; Sprout-Inhibitor; Teratogenic; Termiticide  $LD100=5$

*mg/g LD96=1 mg/g; Tranquilizer; Tyrosinase-Inhibitor ID50=129 ug/ml ID50=970 uM; Vasodilator; Vibriocide MIC=250 ug/ml*

**CIS-2-PENTYLCYCLOPROPYLCARBOXYLIC-ACID Leaf:**

No activity reported.

**CYCLOSEYCHELLENE Plant:**

No activity reported.

**DEHYDRACETIC-ACID Leaf:**

No activity reported.

**DHELWANGIN Hh 2,500 ppm;**

No activity reported.

**DIMETHYLPHENOL Leaf:**

No activity reported.

**EPIGUAIPYRIDINE Plant:**

No activity reported.

**EPOXYCARYOPHYLLENE Plant:**

No activity reported.

**EUGENOL Plant:**

*Acaricide LD50=5.47 ug/sq cm cf DEET at 37.59 ug/sq cm; Allergenic; Analgesic; Anesthetic 200-400; Antiaggregant IC50=0.3 uM; Antiarachidonate; Antibacterial 500 ppm MBC=400 ug/ml; Anticonvulsant; Antiedemic 100; Antiestrogenic; Antifeedant; Antigenotoxic 50-500 mg/kg orl mus; Antiherpetic IC50=16.2-25.6 ug/ml; Antiinflammatory (11 uM) IC~97=1,000 uM; Antikeratotic IC50=16.2-25.6 ug/ml; Antimitotic; Antimutagenic; Antinitrosating; Antioxidant 10 uM IC65=30 ppm; Antiprostaglandin 11 uM IC50=9.2 mM; Antipyretic 3 ml/man/day; Antiradicular EC50=2 ul/l; Antisalmonella MIC=400 ug/ml; Antiseptic 3 ml/man/day 400 ug/ml; Antispasmodic; Antistaphylococcic; Antithromboxane; AntiTNF; Antitumor; Antiulcer; Antiviral IC50=16.2-25.6 ug/ml; Apifuge; Calcium-Antagonist IC50=200 uM gpg IC50=224 uM; Cancer-Preventive; Candidicide; Carcinogenic?; Carminative; Choleric; CNS-Depressant; COX-1-Inhibitor IC97=1,000 uM; COX-2-Inhibitor IC50=129 uM IC>97=1,000 uM; Cytochrome-P450-Inhibitor; Cytotoxic 25 ug/ml; Dermatitogenic; Enterorelaxant; FLavor FEMA 10-500; Fungicide; Hepatoprotective 100 ppm; Herbicide; Insecticide; Insectifuge; Irritant; Juvabional; Larvicide; Motor-Depressant; Nematicide MLC=2,000 ug/ml; Neurotoxic; Perfumery; Pesticide; Prostaglandin-Synthesis-Inhibitor 1 mM rbt IC50=9.2 uM; Sedative; Termiticide LD100=5 mg/g; Trichomonicide LD100=300 ug/ml; Trichomonistat IC50=10 ug/ml; Trypsin-Enhancer; Ulcerogenic; Varroacide; Vasodilator; Vermifuge*

**GAMMA-PATCHOULENE Plant:**

No activity reported.

**GUAIACOL Leaf:**

*Anesthetic; Antibacterial 8,000 ppm; Antidermatitic; Antieczemic; Antiesophagitic; Antiseptic; Antitubercular; Cardiodepressant; Cardiotonic; Dermal; Emetic; Expectorant 0.3-0.6 ml/man; FLavor FEMA <1-1; Insectifuge; Irritant; Pesticide; Prostaglandin-*

Synthesis-Inhibitor  $IC_{50}=57 \mu M$ ; Transdermal

**GUAIPYRIDINE Plant:**

No activity reported.

**HEPTANOIC-ACID Leaf:**

No activity reported.

**HUMULENE Plant:**

Antimalarial  $IC_{50}=86 \mu g/ml$ ; Antiplasmodial

**LIMONENE Plant:**

Acaricide  $LC_{100}=8 \mu M$ ; AChE-Inhibitor; Allelochemic; Allergenic *1/20th carene*;  
Antiacetylcholinesterase  $IC_{22-26}=1.2 mM$ ; Antiadenomic; Antialzheimeran?;  
Antiasthmatic; Antibacterial; Anticancer; Antiesophagitic; Antifeedant; Antiflu;  
Antiinflammatory; Antilithic; Antilymphomic; Antimetastatic (Stomach);  
Antimutagenic; Antiobesity; Antiseptic; Antispasmodic  $ED_{50}=0.197 mg/ml$ ; Antitumor;  
Antitumor (Breast); Antitumor (Colon); Antitumor (Pancreas); Antitumor (Prostate);  
Antitumor (Stomach); Antiviral; Apoptotic; Bronchoprotectant; Cancer-Preventive;  
Candidostat; Chemopreventive; Cholesterolytic; Detoxicant; Enterocontractant;  
Expectorant; FLavor; Fungiphilic; Fungistat; GST-Inducer; Herbicide  $IC_{50}=45 \mu M$ ;  
Histaminic; Immunomodulator; Insecticide  $0.37 \mu M/fly$ ; Insectifuge; Interleukin-6-  
Inhibitor; Irritant; Lipolytic; Myorelaxant  $50 mg/kg$ ; Nematicide  $IC=100 \mu g/ml$ ; NO-  
Genic; Ornithine-Decarboxylase-Inhibitor  $\sim 750 mg/kg$  (diet); Ozone-Scavenger; P450-  
Inducer; Peristaltic; Pesticide; Photosensitizer; Sedative  $ED=1-32 mg/kg$ ; Transdermal

**NONANOIC-ACID Leaf:**

FLavor *FEMA 1-15*; Perfumery

**NORDEHYDROPATCHOULOL Plant:**

No activity reported.

**NORPATCHOULENOL Plant:**

No activity reported.

**O-CRESOL Leaf:**

Allelochemic  $IC_{50}=0.36 mM$ ; Antimutagenic; Antiseptic; Cancer-Preventive; Pesticide;  
Rodenticide  $LD_{50}=620 \text{ cut rat}$

**OCTANOIC-ACID Leaf:**

Candidicide; FLavor *FEMA 3-20*; Fungicide; Perfumery; Pesticide

**OMBUINE Plant:**

No activity reported.

**P-VINYLPHENOL Leaf:**

No activity reported.

**PACHYPODOL Plant:**

Antiviral; Pesticide

**PATCHOULI-ALCOHOL Plant 2,100 - 23,200 ppm**

Antibacterial  $MIC=39-2,500$ ; Antiplaque  $MIC=39-2,500\text{ ug/ml}$ ; Fungicide; Pesticide

**PATCHOULIPYRIDINE *Plant*:**

No activity reported.

**PENTANOIC-ACID *Leaf*:**

No activity reported.

**PHENOL *Leaf*:**

Analgesic; Anesthetic; Antibacterial; Antihemorrhoidal; Antihydrocoele;  
Antiincontinence; AntiMS; Antionychogryphotic; Antiotitic; Antioxidant;  
Antiprostatic; Antipyruvetic; Antiseptic; Antisinusitic; Antispastic; Antiviral;  
Antiwrinkle; Cancer-Preventive; Carcinogenic; CNS-Depressant; Emetic; Fungicide;  
Hemolytic  $5,400\text{ ppm}$ ; Pesticide; Rodenticide  $LD50=1,040\text{ cut rat}$ ; Vasodilator

**POGOSTOL *Plant*:**

No activity reported.

**POGOSTONE *Plant*:**

Antibacterial  $MIC=39-625$ ; Antiplaque  $MIC=39-625\text{ ug/ml}$ ; Fungicide; Pesticide

**RHAMNETIN *Plant*:**

Aldose-Reductase-Inhibitor  $IC23=1\text{ uM}$   $IC57=10\text{ uM}$ ; Allergenic; Antiaflatoxin  $0.41\text{ ppm}$   $IC50=1.29\text{ uM}$ ; Antibacterial; Anticancer; Antimutagenic; Antioxidant;  
Antiradicular  $7\text{ x quercetin}$ ; Antitumor; Antitumor-Promoter; Cancer-Preventive; Dye;  
Hepatoprotective  $IC50=1.29\text{ uM}$ ; Mutagenic; Pesticide; Quinone-Reductase-Inducer

**SEYCHELLENE *Plant*:**

No activity reported.

**TRANS-2-PENTYLCYCLOPROPYLCARBOXYLIC-ACID *Leaf*:**

No activity reported.