

Dr. Duke's Phytochemical and Ethnobotanical Databases



Chemicals and their Biological Activities in: *Zingiber officinale* ROSCOE (Zingiberaceae) -- Ginger

Chemicals

1,8-CINEOLE *Rhizome* 33 - 5,000 ppm

(-)-Chronotropic 87 nl/ml; (-)-Inotropic; Acaricide $LC_{100}=6\ \mu M$; Allelopathic; Allergenic; Anesthetic; Anthelmintic; Antiacetylcholinesterase $IC_{50}=41\ \mu g/ml$; Antiallergic; Antibacterial 50 ppm; Antibronchitic; Anticariogenic; Anticatarrh; Anticholinesterase $IC_{50}=50-70$; Antifatigue; Antihalitosis; Antiinflammatory; Antilaryngitic; Antinociceptive; Antipharyngitic; Antiplatelet; Antirheumatic; Antirhinitic; Antiseptic; Antisinusitic; Antispasmodic; Antistaphylococcal 50 ppm; Antitussive; Antiulcer; Candidicide; Carcinogenic; Choleric; CNS-Stimulant; Convulsant; Counterirritant; Cytochrome-P450-Inducer; Decongestant; Degranulant 0.3 ul/ml; Dentifrice; Edemagenic inj; Expectorant; FLavor FEMA 1-200; Fungicide; Gastroprotective; Gram(+)icide; Gram(-)icide; Hepatotonic; Herbicide $IC_{50}=78\ \mu M$; Hypotensive; Inflammatory inj; Insectifuge; Irritant; Myorelaxant; Nematicide; Neurotoxic; P450-Inducer; Pediculicide 2.3 x pyrethrin; Perfume; Pesticide; Rubefacient; Secretagogue; Sedative; Spasmogenic; Surfactant; Testosterone-Hydroxylase-Inducer; Transdermal; Trichomonicide $LD_{100}=1,000\ \mu g/ml$

1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-DIACETOXYOCTANE *Rhizome*:

No activity reported.

1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-OCTANEDIOL *Rhizome*:

No activity reported.

10-DEHYDROGINGERDIONE *Rhizome*:

Anticholeric; Antiinflammatory > indomethacin; Antiprostaglandin

10-EPIZONARENE *Essential Oil*:

No activity reported.

10-GINGEDIOL *Rhizome*:

No activity reported.

10-GINGERDIONE *Rhizome*:

Antiinflammatory > indomethacin; Antiprostaglandin

10-GINGEROL *Rhizome* 200 - 1,862 ppm

Cardiotonic; Cholagogue; Thermogenic 60 μM rat

10-SHOGOAL *Rhizome*:

No activity reported.

12-GINGEROL *Rhizome*:

No activity reported.

14-GINGEROL *Rhizome*:

No activity reported.

16-GINGEROL *Rhizome*:

No activity reported.

2,2,4-TRIMETHYL-HEPTANE *Rhizome*:

No activity reported.

3-PHENYL-BENZALDEHYDE *Rhizome*:

No activity reported.

4-GINGEROL *Rhizome*:

No activity reported.

4-PHENYL-BENZALDEHYDE *Rhizome*:

No activity reported.

6,10-DEHYDROGINGERDIONE *Rhizome*:

No activity reported.

6-DEHYDROGINGERDIONE *Rhizome*:

Antiinflammatory > *indomethacin*; Antiprostaglandin

6-DIHYDROGINGERDIONE *Rhizome*:

No activity reported.

6-GINGEDIOL *Rhizome*:

No activity reported.

6-GINGEDIOL-ACETATE *Rhizome*:

No activity reported.

6-GINGEDIOL-ACETATE-METHYL-ETHER *Rhizome*:

No activity reported.

6-GINGEDIOL-METHYL-ETHER *Rhizome*:

No activity reported.

6-GINGERDIONE *Rhizome*:

Antiinflammatory > *indomethacin*; Antiprostaglandin

6-GINGEROL *Rhizome* 130 - 7,138 ppm

Amphitensive 0.5-1 mg/kg; Analgesic 1.7-3.5 mg/kg *ivn* 140 mg/kg *orl mus*; Anti-5-HT; Antiallergic; Antiemetic 25 mg/kg; Antioxidant; Antiprostaglandin; Antipyretic 1.7-3.5 mg/kg *ivn* 140 mg/kg *orl mus*; Antiseratogenic; Antitussive; Antiulcer $IC_{50}=100$ mg/kg

IC58=150 mg/kg; Cardiodepressant; Cardiotonic; Cholagogue; Cyclooxygenase-Inhibitor; Depressor; Hepatoprotective; Hypertensive 0.5-1 mg/kg; Hypotensive 1-100 ug/kg; Larvicide LD90=62 ug/ml; Mutagenic; Nematicide; Prostaglandin-Synthesis-Inhibitor 1 mM (60.7% inhibition); Sedative; Thermogenic 10 uM rat

6-METHYL-HEPT-5-EN-2-ONE Rhizome 2 - 50 ppm

No activity reported.

6-METHYLGINGEDIACETATE Rhizome:

No activity reported.

6-METHYLGINGEDIOL Rhizome:

No activity reported.

6-PARADOL Rhizome:

No activity reported.

6-SHOGAOL Rhizome 40 - 330 ppm

Analgesic 1.7-3.5 mg/kg ivn 140 mg/kg orl mus; Anti-5-HT; Antiallergic; Antihistaminic; Antioxidant; Antiprostaglandin; Antipyretic 1.7-3.5 mg/kg ivn 140 mg/kg orl mus; Antispasmodic; Antitussive; Antiulcer IC70=150 mg/kg; Bradycardic; Cardiodepressant 10-100 ug/kg; Cardiotonic; CNS-Depressant; Enteromotility-Enhancer 2.5 mg/kg; Gastrostimulant; Hepatoprotective; Hypertensive 0.5-1 mg/kg; Hypotensive 1-100 ug/kg; Larvicide LD90=62 ug/ml; Molluscicide; Mutagenic; Nematicide MLC=0.1 mg/ml; Pressor; Sedative; Sprout-Inhibitor; Sympathomimetic; Thermogenic 20 uM rat; Vasoconstrictor

7-GINGEROL Rhizome:

No activity reported.

8-BETA-17-EPOXY-LABD-TRANS-12-ENE-15,16-DIAL Rhizome 40 ppm;

Prostaglandin-Synthesis-Inhibitor IC50=100 uM

8-GINGEDIOL Rhizome:

No activity reported.

8-GINGEROL Rhizome 200 - 1,069 ppm

Anti-5-HT; Antihistaminic; Cardiotonic; Enteromotility-Enhancer 5 mg/kg; Thermogenic 20 uM rat

8-SHOGAOL Rhizome:

Antihistaminic; Thermogenic 20 uM rat

9-GINGEROL Rhizome:

No activity reported.

9-OXO-NEROLIDOL Rhizome:

Pesticide; Phytoalexin

ACETIC-ACID Rhizome:

Acidulant; Antibacterial 5,000 ppm; Antiotitic; Antisalmonella; Antivaginitic 1-2%; Expectoant; Fungicide; Keratitogenic; Mucolytic; Osteolytic; Perfumery FEMA 6,000-

40,000 ppm; Pesticide; Protisticide; Spermicide; Ulcerogenic; Verrucolytic

ALBUMIN *Rhizome* 4,984 - 45,924 ppm

No activity reported.

ALLO-AROMADENDRINE *Rhizome* 1 - 70 ppm

No activity reported.

ALPHA-CADINENE *Rhizome*:

No activity reported.

ALPHA-CADINOL *Rhizome*:

Acaricide; Antimite; Pesticide

ALPHA-COPAENE *Rhizome*:

No activity reported.

ALPHA-CURCUMENE *Rhizome*:

Antiinflammatory; Antitumor; Hypotriglyceridemic

ALPHA-FARNESENE *Rhizome* 20 - 1,250 ppm

No activity reported.

ALPHA-LINOLENIC-ACID *Rhizome* 340 - 3,190 ppm

5-Alpha-Reductase-Inhibitor; Antiaggregant; Antihypertensive; Antiinflammatory
IC50=42 μ M; Antileukotriene-D4; Antimenorrhagic; Antimetastatic; Antiprosthetic;
Cancer-Preventive; Hypotensive; Immunostimulant 0.12 ml/man/day; Lymphocytogenic
0.5 μ g/ml; Propecic; Prostaglandin-Synthesis-Inhibitor 39.5 g/day/hmn; Vasodilator

ALPHA-MUUROLENE *Rhizome*:

No activity reported.

ALPHA-PHELLANDRENE *Rhizome* 3 - 200 ppm

Antibacterial; Antistaphylococcic; Dermal; Emetic; FLavor *FEMA* 10-130; Fungicide;
Insectiphile; Irritant; Laxative; Perfumery; Pesticide

ALPHA-PINENE *Rhizome* 10 - 1,950 ppm

Allelochemic; Allergenic; Antiacne; Antibacterial; Antifeedant; Antiflu;
Antiinflammatory 500 mg/kg; Antipneumonic; Antiseptic; Antispasmodic;
Antistaphylococcic; Antiviral; Cancer-Preventive; Coleoptophile; Expectorant; FLavor
FEMA 15-150; Herbicide *IC50*=30 μ M; Insecticide 0.82 μ M/fly; Insectifuge 50 ppm;
Insectiphile; Irritant; P450-2B1-Inhibitor *IC50*=0.087 μ M; Perfumery; Pesticide;
Sedative; Spasmogenic; Tranquilizer; Transdermal

ALPHA-SELINENE *Rhizome*:

Antimalarial *IC50*=>50 μ g/ml; Antiplasmodial; Perfumery

ALPHA-TERPINENE *Rhizome* 0.5 - 35 ppm

Acaricide; ACE-Inhibitor 100 μ g/ml (*weak activity*); Aldose-Reductase-Inhibitor 100
 μ g/ml; Antiacetylcholinesterase *IC50*=1.0 mM; Antinitrosaminic; Antispasmodic;
FLavor *FEMA* 1-40; Insecticide 0.86 μ M/fly; Insectifuge; P450-2B1-Inhibitor
IC50=0.76 μ M; Perfumery; Pesticide; Spasmogenic

ALPHA-TERPINEOL *Rhizome* 8 - 500 ppm

ACE-Inhibitor *100 ug/ml (weak activity)*; Aldose-Reductase-Inhibitor *100 ug/ml*;
Allelopathic; Antiacne; Antibacterial *MIC=800-1,600 ug/ml*; Anticancer;
Anticariogenic; Antiinflammatory; Antiproliferant; Antiseptic; Cicatrizant *ED50=240 ug/g mus*; FLavor *FEMA 5-40*; Insecticide *1.29 uM/fly*; Interleukin-6-Inhibitor;
Mosquitofuge > *Deet*; Motor-Depressant; Nematicide *MLC=1 mg/ml*; Perfumery;
Pesticide; Sedative; Termiticide *IC100=5 mg/g*; Transdermal; Vulnerary *ED50=240 ug/g mus*

ALPHA-ZINGIBERENE *Rhizome*: 74 - 4,600 ppm

Antiulcer *IC54=100 mg/kg*

ANTI-METHYL-10-SHOGOAL *Rhizome*:

No activity reported.

ANTI-METHYL-6-SHOGAOL *Rhizome*:

No activity reported.

ANTI-METHYL-8-SHOGAOL *Rhizome*:

No activity reported.

AR-CURCUMENE *Rhizome* 20 - 9,520 ppm

Antirhinoviral *IC50=1,750?*; Antiulcer *IC45=100 mg/kg*; Antiviral *IC50=1,750?*

AROMADENDRINE *Rhizome*:

No activity reported.

ASPARAGINE *Rhizome* 500 ppm;

Antisickling; Diuretic

BETA-BISABOLENE *Rhizome* 5 - 3,600 ppm

Abortifacient; Antirhinoviral *IC50=1,800?*; Antiulcer *IC57=100 mg/kg*; Antiviral *IC50=1,800?*; Perfumery; Stomachic

BETA-BISABOLOL *Rhizome* 5 - 295 ppm

No activity reported.

BETA-CARYOPHYLLENE *Rhizome* 0.7 - 45 ppm

No activity reported.

BETA-ELEMENE *Rhizome* 2 - 500 ppm

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

BETA-EUDES MOL *Rhizome* 7 - 465 ppm

Antianoxic *ED60=300 orl mus*; AntiEBV; Antimutagenic *ID50=0.09 uM/ml*;
Antipeptic; Antisalmonella >*0.18 uM/ml*; Antitumor-Promoter?; Antiulcer; Calcium-
Antagonist *40 uM mus*; CNS-Inhibitor; Hepatoprotective; Neurogenic; Pesticide;
Sedative

BETA-HIMACHALENE *Rhizome*:

No activity reported.

BETA-IONONE *Rhizome*:

Allergenic; Antibacterial *MIC*=200 *ug/ml*; Anticariogenic *MIC*=100 *ug/ml*;
Antimelanomic *IC*50=140 *uM/l*; Antitumor; Cancer-Preventive; Cytochrome-P450-
Inducer; Fungicide; Hypocholesterolemic; Nematicide *MLC*=1 *mg/ml*; P450-Inducer;
Pesticide; Trichomonicide *LD*100=100 *ug/ml*

BETA-MYRCENE *Rf 2 - 950 ppm*

Cancer-Preventive; Perfumery

BETA-PHELLANDRENE *Rhizome 32 - 2,850 ppm*

Expectorant; Fungicide; Perfumery

BETA-PINENE *Rhizome 4 - 265 ppm*

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

BETA-SELINENE *Rhizome*:

Antimalarial *IC*50=>50 *ug/ml*; Antiplasmodial; Perfumery

BETA-SESQUIPELLANDRENE *Rhizome 20 - 6,012 ppm*

Antirhinoviral *IC*50=0.44 *uM*; Antiulcer *IC*40=50 *mg/kg*; Expectorant; Pesticide;
Stomachic

BETA-THUJONE *Rhizome*:

Abortifacient; Antibacterial; Emmenagogue; Insectifuge; Pesticide

BETA-ZINGIBERENE *Rhizome*:

No activity reported.

BORNYL-ACETATE *Rhizome 2 - 105 ppm*

(-)-Chronotropic 933 *nl/ml*; (-)-Inotropic; Antibacterial; Antifeedant; Antispasmodic
*ED*50=0.09 *mg/ml*; Antiviral; Expectorant; FLavor *FEMA 70-80*; Insectifuge;
Myorelaxant; Pesticide; Sedative

CAFFEIC-ACID *Rhizome*:

Aldose-Reductase-Inhibitor 4 *ug/ml* (*weak activity*); Allergenic; Analgesic;
Antiadenoviral; Antiaggregant; Antiaging; Antiatherogenic; Antibacterial; Anticancer;
Anticarcinogenic; Antidepressant; Antiedemic; Antielastase *IC*50=86 *ug/ml* (475 *uM*)
*IC*50=93 *um/l*; Antiescherichic; Antiflu; Antigonadotropic; Antihemolytic 25 *uM*;
Antihepatoadenomic 200 *ppm diet orl mus*; Antihepatotoxic; Antiherpetic 50 *ug/ml*
*EC*50=>50 *ug/ml*; Antihistaminic; AntiHIV *EC*50=200 *ug/ml*;
Antihypercholesterolemic; Antihyperthyroid; Antiinflammatory; AntiLegionella;
Antileukemic; Antileukotriene; Antimelanogenic; Antimutagenic; Antinitrosaminic;
Antiophidic; Antioxidant 1.3 x *Vit. E* 1/2 *BHA* 1/3 *quercetin* 30 *mM* 50 *uM* *IC*57=30
ppm; Antiperoxidant *IC*35=200 *ug/ml* *IC*50=44 *uM* *IC*85=100 *ug/ml*; Antiproliferant;
Antiprostaglandin; Antiradicular 1/3 *quercetin* 10 *uM* 30 *mM* *IC*50=32-35 *uM*;
Antiseptic; Antispasmodic *EC*50=3.4-15 *uM*; Antistaphylococcic; Antistomatitic;
Antisunburn; Antithiamin; Antithyroid; Antitumor 200 *ppm diet orl mus*; Antitumor
(Skin); Antitumor-Promoter *IC*42=10 *uM*; Antiulcerogenic; Antivaccinia; Antiviral
*IC*50=62.5 *ug/ml*; Anxiolytic; Calcium-Antagonist *IC*50=1.2 *uM rbt*; Cancer-
Preventive; Carcinogenic 2% (*diet*); Chemopreventive; Cholagogue; Choloretic;

Clastogenic; CNS-Active; Co-carcinogenic; Collagen-Sparing; COX-2-Inhibitor $IC_{32}=100\ \mu M$; Cytoprotective; Cytotoxic $TC_{50}=200\ \mu g/ml$; Diuretic; DNA-Active; DNA-Protective; Fungicide $MIC=0.4\ mg/ml$; Hepatocarcinogenic $400\ ppm\ diet\ orl\ mus$ (in the absence of alcohol); Hepatoprotective; Hepatotropic; Histamine-Inhibitor; Immunostimulant; Insectifuge; Leukotriene-Inhibitor; Lipoxygenase-Inhibitor $IC_{27}=5\ mM$ $IC_{50}=62-148\ \mu M$; Lyase-Inhibitor $IC_{50}=94-164\ \mu M$; Metal-Chelator; Ornithine-Decarboxylase-Inhibitor; Pesticide; Prooxidant; Prostaglandinogenic; Sedative $500\ mg$; Sunscreen $IC_{50}=2.5\ mg/l$ $IC_{91}=5\ mg/l$ $IC_{98}=25\ mg/l$; Tumorigenic; Vulnerary; Xanthine-Oxidase-Inhibitor $IC_{50}=39.21\ \mu M$

CALAMENEN Rhizome:

No activity reported.

CAMPHENE Rhizome 28 - 6,300 ppm

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

CAMPHENE-HYDRATE Rhizome:

No activity reported.

CAMPHOR Rhizome 1 - 60 ppm

Allelopathic; Analgesic; Anesthetic; Antiacne; Antidiarrheic $500\ \mu g/ml$; Antidysenteric; Antiemetic $100-200\ mg\ man\ orl$; Antifeedant $IC_{50}=5,000\ ppm\ diet$; Antifibrositic; Antineuralgic; Antipruritic; Antiseptic; Antispasmodic $ED_{50}=0.075\ mg/ml$; Cancer-Preventive; Carminative; CNS-Stimulant; Convulsant; Cosmetic; Counterirritant; Decongestant; Deliriant; Ebolic; Emetic; Epileptogenic; Expectorant; Fungicide $ED_{50}=2.7\ mM$; Herbicide $IC_{50}=3.3-180\ mM$; Insect-Repellent; Insectifuge; Irritant; Nematicide $MLC=1\ mg/ml$; Oculoirritant; P450-2B1-Inhibitor $IC_{50}=7.89\ \mu M$; Pesticide; Respirainhibitor; Respirastimulant; Rubefacient; Stimulant; Transdermal; Verrucolytic; Vibriocide $500\ \mu g/ml$

CAPRIC-ACID Rhizome 1,800 - 1,980 ppm

Fungicide; Irritant; Pesticide

CAPRYLIC-ACID Rhizome 70 - 380 ppm

Antiseptic; Candidicide $300\ mg/man/12\ x/day$; Fungicide; Irritant; Pesticide

CAPSAICIN Plant:

5-Lipoxygenase-Inhibitor; Analgesic; Anaphylactic; Anesthetic; Antiaggregant; Antiarrhythmic $100\ \mu M$; Anticolonospasmodic $0.003\ ivn\ gpg$; Antiinflammatory; Antiischemic $100\ \mu M$; Antimastalgic; Antineuralgic; Antineuritic; Antinitrosaminic; Antinociceptive; Antioxidant; Antipsoriatic; Antiseptic; Antispasmodic; Antitachycardic; Antitumor (Lung); Antiulcer; Calcium-Antagonist $3\ \mu M$; Cancer-Preventive; Carcinogenic; Cardiotonic; Catabolic; Cyclooxygenase-Inhibitor; Cytochrome-P450-Inhibitor; Diaphoretic; Digestive; Endocrinactive $50\ mg/kg\ scu\ rat$; FLavor $0.009-10$; Hypothermic $7\ mg/kg$; Irritant; Neurotoxic; Pesticide; Pyrogenic $6\ mg\ scu\ rat$; Repellent; Respirasensitizer; Rubefacient; Sialogogue; Thermogenic $0.7\ mg/kg\ ims\ rat$; Vasodilator

CAR-3-ENE Rhizome:

No activity reported.

CARYOPHYLLENE *Essential Oil:*

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

CEDOROL *Rhizome:*

No activity reported.

CHAVICOL *Rhizome:*

Fungicide; Nematicide; Pesticide

CHLOROGENIC-ACID *Plant:*

Aldose-Reductase-Inhibitor $IC50=1.8\text{ uM rat (strong activity)}$; Allelochemic; Allergenic; Analgesic; Antiatherosclerotic; Antibacterial; Anticancer (Colon); Anticancer (Forestomach); Anticancer (Liver); Anticancer (Skin); Anticarcinogenic; Antidiabetic; AntiEBV; Antifeedant; Antigenotoxic; Antigonadotropic; Antihemolytic 10 uM ; Antihepatotoxic; Antiherpetic; Antihistaminic; AntiHIV; Antihypercholesterolemic; Antihyperthyroid; Antiinflammatory; AntiLegionella; Antileukotriene; Antimelanogenic; Antimutagenic; Antinitrosaminic; Antioxidant $IC50=54.2\text{ uM}$ $IC53=200\text{ ppm}$ $IC80=12\text{ uM}$; Antiperoxidant $IC50=36\text{ uM}$; Antipolio; Antiradicular 10 uM 9 x quercetin ; Antiseptic; Antisunburn; Antithyroid; Antitumor; Antitumor (Colon); Antitumor (Forestomach); Antitumor (Liver); Antitumor (Skin); Antitumor-Promoter $IC25=10\text{ uM}$; Antiulcer; Antiviral; Autotoxic; Cancer-Preventive; Cardioprotective; Chemopreventive; Cholagogue; Choloretic; Clastogenic; CNS-Active; CNS-Stimulant $1/6\text{ Caffeine}$; Collagen-Sparing; Diuretic; Fungicide; Hepatoprotective; Histamine-Inhibitor; Hypoglycemic; Immunostimulant; Insectifuge; Interferonogenic; Juvabional; Larvostat; Leukotriene-Inhibitor; Lipoxygenase-Inhibitor $IC23=5\text{ mM}$; Metal-Chelator; NO-Genic; Ornithine-Decarboxylase-Inhibitor; Oviposition-Stimulant; Pesticide; Sunscreen; Sweetener; Vulnerary

CINEOLE *Rhizome:*

No activity reported.

CIS-10-SHOGOAL *Rhizome:*

No activity reported.

CIS-12-SHOGOAL *Rhizome:*

No activity reported.

CIS-6-SHOGOAL *Rhizome 40 ppm;*

No activity reported.

CIS-8-SHOGOAL *Rhizome 40 ppm;*

No activity reported.

CIS-BETA-SESQUIPELLANDROL *Essential Oil:*

No activity reported.

CIS-HEXAN-3-OL *Rhizome*:

No activity reported.

CIS-SESQUIABINENE-HYDRATE *Rhizome*:

No activity reported.

CIS-SESQUISABINENE-HYDRATE *Plant*:

No activity reported.

CITRAL *Rhizome* 13,500 ppm;

Allergenic; Antiallergic; Antianaphylactic; Antibacterial; Antihistaminic; Antiseptic 5.2 *x phenol*; Antishock; Barbituate-Synergist; Bronchorelaxant; Cancer-Preventive; Expectorant; FLavor *FEMA* 4-170; Fungicide *MIC* 625 *ug/ml*; Glaucomagenic; Herbicide *IC50*=115 *uM*; Nematicide *IC52*=100 *ug/ml* *MLC*=100-260 *ug/ml*; Perfumery; Pesticide; Prostatitigenic 185 *mg/kg/day/3 ms*; Sedative *ED* 1-32 *mg/kg*; Teratogenic; Trichomonicide *LD100*=150 *ug/ml*; Tyrosinase-Inhibitor *ID50*=1.5 *mM*

CITRONELLAL *Rhizome* 2 - 145 ppm

Acaricide; Allergenic; Antibacterial; Antiseptic 3.8 *x phenol*; Antistaphylococcic; Antistreptococcic; Candidicide; Embryotoxic; FLavor *FEMA* <1; Fungicide; Insectifuge; Irritant; Motor-Depressant; Mutagenic?; Nematicide *MIC* 1 *mg/ml*; P450-2B1-Inhibitor *IC50*=1.56 *uM*; Perfumery; Pesticide; Sedative *ED*=1 *mg/kg*; Teratogenic

CITRONELLOL *Rhizome* 2 - 6,500 ppm

Allergenic; Antibacterial; Antiseptic; Antistaphylococcic; Antistreptococcic; Candidicide; FLavor *FEMA* 1-50; Fungicide; Herbicide *IC50*=160 *uM*; Irritant; Nematicide *MLC*=100 *ug/ml*; Perfumery; Pesticide; Sedative; Trichomonicide *LD100*=300 *ug/ml*

CITRONELLYL-ACETATE *Rhizome*:

FLavor *FEMA* <1-700; Irritant

CUMENE *Rhizome* 1 ppm;

Narcotic

CURCUMIN *Plant*:

12-Lipoxygenase-Inhibitor; 5-Alpha-Reductase-Inhibitor; 5-HETE-Inhibitor *IC50*=3-10 *uM*; 5-Lipoxygenase-Inhibitor; 8-HETE-Inhibitor *IC40*=3 *uM*; Antiadenomacarcinogenic 50-200 *mg/kg ipr rat*; Antiaflatoxin *IC50*=81 *uM*; Antiaggregant; Antialzheimeran 0.5-10 *ug/ml*; Antiamyloid-Beta; Antiangiogenic; Antiarachidonate; Antiarthritic; Antiasthmatic; Antiatherosclerotic 0.4-20 *mg/kg/day*; Antibacterial; Antibronchitic; Anticancer; Anticancer (Breast); Anticancer (Colon); Anticancer (Duodenum); Anticancer (Mammary) 50-200 *mg/kg ipr rat*; Anticancer (Skin); Anticancer (Stomach); Anticarcinogenic; Anticataract 75 *mg/kg orl rat*; Anticholecystic; Anticolitic; Anticollagenic; AntiCrohn's; AntiEBV *IC50*=5.4 *uM*; Antieczemic; Antiedemic *ED50*=100.2 *mg/kg orl mus* (*cf* 78 for cortisone) *ED50*=48 *mg/kg orl rat* (*cf* 45 for cortisone) *ED50*=48 *mg/kg orl rat* (*cf* 48 for phenylbutazone); Antieicosanoid; Antihepatotic; AntiHIV *IC50*=40 *uM*; Antiinflammatory 1 *uM* 1,200 *mg/man/day*; Antiintegrase 40-150 *uM*; Antiischemic; Antileishmanic *IC50*=7.8 *ug/ml*; Antileukemic; Antileukotriene 170 *mg/kg orl rat*; Antilipoperoxidant; Antilithic 0.5% diet; Antilymphomic 0.4 *mg/ml* 4 *ug/ml*; Antimelanomic 200 *nM/kg orl mus*; Antimetastatic; Antimutagenic; Antinitrosaminic; Antioxidant 1/3 BHA *IC50*=500 *uM*;

Antipapillomic; Antiperoxidant; Antiproliferant $IC_{50}=13 \mu M$; Antiprostaglandin $8.8 \mu M$; Antipsoriatic; Antispasmodic; Antithrombotic; Antithromboxane; Antitumor; Antitumor (Colon); Antitumor (Liver) $10 \mu M$; Antitumor-Promoter $IC_{91}=10 \mu M$; Antiulcer *orl rat*; Antiviral $IC_{50}=5.4 \mu M$; Apoptotic $150-2,000 ppm$ (diet) *orl rat* $30-90 \mu M$; Cancer-Preventive; Cardiodepressant; Chelator $IC_{50}=500 \mu M$ Iron; Chemopreventive; Cholagogue; Choleric; COX-2-Inhibitor $10-20 \mu M$; Cyclooxygenase-Inhibitor; Cytochrome-P450-Inhibitor; Cytotoxic $0.4-4 mg/ml$ $IC_{50}=1 \mu g/ml$ $IC_{50}=25 \mu M$; Deodorant; Detoxicant; DNA-Protective; Dye; Expectorant $100 \mu M$; Fibrinolytic; Fungicide; Glutathionigenic $80 mg/kg$ *igs rat*; Hepatoprotective $30 mg/kg/day$ $30 ppm$; Hypocholesterolemic 0.15% diet $7 wks$; Hypolipidemic; Hypotensive; IkappaB-alpha-Phosphorylation-Inhibitor; IKB-kinase-Inhibitor; IKK-Inhibitor; Immunostimulant $40 mg/kg/5 wk$ *orl rat*; Lipase-Inducer; Litholytic 0.5% diet; Maltase-Promoter; MDR-Inhibitor $1-55 \mu M$; Metal-Chelator; MMP-9-Inhibitor $10 \mu M$; Mucogenic $100 \mu M$; Nematicide; Neuroprotective $80 mg/kg$ *igs rat*; NF-kB-Inhibitor; NO-Inhibitor; NO-Scavenger; Ornithine-Decarboxylase-Inhibitor $ED \sim 150 mg/kg$; P450-Inhibitor $IC_{50}=2-14 \mu g/ml$; Pesticide; PGE2-Inhibitor $IC_{42}=3 \mu M$; Phototoxic; Plasmodicide; Prostaglandin-Synthesis-Inhibitor 0.2% diet *rat*; Protease-Inhibitor $IC_{50}=11-250 \mu M$; Protein-Kinase-C-Inhibitor $IC_{50}=15 \mu M$ $IC_{69}=15 \mu M$; Protein-Kinase-Inhibitor; PTK-Inhibitor $5-100 \mu M$; Pulmonoprotective $200 mg/kg/7 d$; Quinone-Reductase-Inducer $3.4 \mu M$; Radioprotective; Sortase-A-Inhibitor $IC_{50}=13-14 \mu g/ml$; Sucrase-Promoter; TNF-Inhibitor; Topoisomerase-I-Inhibitor; Topoisomerase-II-Inhibitor; Ulcerogenic *orl rat*; VEGF-Inhibitor

D-BORNEOL Rhizome $14 - 1,102 ppm$

Convulsant; Emetic; Irritant; Perfume

DECANAL Plant $5 - 100 ppm$

No activity reported.

DECYL-ALDEHYDE Rhizome:

No activity reported.

DELPHINIDIN Plant:

Allelochemic $IC_{81}=1 mM$; Allergenic; Antioxidant $ID_{50}=0.7-2.4 \mu M$; Cancer-Preventive; Metal-Chelator (Copper); NO-Inhibitor $IC_{78}=250 \mu M$; Pesticide; Pigment; Prooxidant

DELTA-CADINENE Rhizome $1 - 65 ppm$

Aldose-Reductase-Inhibitor; Antiacne; Antibacterial $MIC_{800} \mu g/ml$; Anticariogenic; Antistreptococcic; Cytochrome-P450-Inducer; P450-Inducer; Pesticide; Testosterone-Inducer

DELTA-CAR-3-ENE Rhizome:

No activity reported.

DEMETHYL-HEXAHYDROCURCUMIN Rhizome:

No activity reported.

DIETHYLSULFIDE Essential Oil:

No activity reported.

DIHYDROGINGEROL Rhizome:

No activity reported.

DODECANOIC-ACID *Rhizome*:

FLavor *FEMA* 2-40

ELEMOL *Rhizome* 3 - 190 ppm

Antiacetylcholinesterase *IC*₅₀=34 ug/ml; Antiulcer

ETHYL-ACETATE *Essential Oil*:

Antispasmodic; Carminative; CNS-Depressant; FLavor *FEMA* 20-1,500; Respirotoxic >400 ppm; Stimulant

ETHYL-ISOPROPYL-SULFIDE *Essential Oil*:

No activity reported.

ETHYL-MYRISTATE *Rhizome*:

FLavor *FEMA* 6-30

FARNESAL *Rhizome* 1 - 100 ppm

Juvabional; Pesticide

FARNESENE *Rhizome* 245 - 4,910 ppm

Pesticide; Pheromone

FARNESOL *Rhizome*:

Allergenic; Antiadenomic; Anticancer (Pancreas) *IC*₅₀=39 uM; Anticarcinomic (Colon); Anticarcinomic (Lung); Antileukemic; Antimelanomic *IC*₅₀=50 uM/l; Antispasmodic; Apoptotic; FLavor *FEMA* 0.1-3; Juvabional; Nematicide *MLC*=100 ug/ml; Perfumery; Pesticide; Pheromonal; Sedative; Trichomonicide *LD*₁₀₀=100 ug/ml

FERULIC-ACID *Plant*:

Allelopathic; Analgesic; Antiaggregant; Antiallergic; Antiarrhythmic; Antibacterial; Anticancer (Colon); Anticancer (Forestomach); Anticancer (Liver); Anticancer (Skin); Anticarcinogenic; Antidysmenorrhic; Antiestrogenic; Antihepatotoxic; Antiherpetic; Antiinflammatory; Antileukemic *IC*₅₀=25-56 ug/ml; Antimitotic; Antimutagenic; Antineoplastic (*Stomach*); Antinitrosaminic; Antioxidant 1/2 *BHA* 1/3 *quercetin* 3,000 uM *EC*₅₀=9-15 ug/ml *IC*₅₁=200 ppm; Antiradicular *EC*₅₀=9-15 ug/ml *IC*₅₀=116-124 uM; Antiserotonin; Antispasmodic; Antithrombic; Antitumor; Antitumor (Colon); Antitumor (Forestomach); Antitumor (Liver); Antitumor (Skin); Antitumor-Promoter *IC*₄₆=10 uM; Antiviral; Arteriodilator; Cancer-Preventive; Candidicide; Cardiac; Cholagogue; Choloretic; Fungicide; Hepatoprotective; Hepatotropic; Herbicide; Hydrocholerectic; Hypolipidemic; Immunostimulant; Insectifuge; Metal-Chelator; Ornithine-Decarboxylase-Inhibitor; Pesticide; Phagocytotic; Preservative; Prostaglandinogenic; Prostaglandin-Synthesis-Inhibitor 0.58-3.2 mM; Sunscreen; Uterosedative 30-100 mg/kg *ivn rat*

FURANOGERMENONE *Rhizome*:

No activity reported.

FURFURAL *Plant*:

Antiseptic; FLavor *FEMA* 1-30; Fungicide; Insecticide; Irritant; Pesticide

GAMMA-AMINOBUTYRIC-ACID *Rhizome*:

Analeptic; Anticephalagic; Anticerebrotic; Antichoreic 1-32 g/man/day; Anticonvulsant 4,120 mg/kg ipr mus; Antihypertensive 1,000-4,000 mg/man/day; Antiinsomnic; Antilethargic; Antistress; Antitinnitic; Anxiolytic; Cardiovascular 208 ivn dog; CNS-Inhibitor 0.1 mg/kg ivn cat 100 mg/kg ivn dog 2,500 mg/kg scu mus; Diuretic 1,500-4,000 mg/man/day; Hypotensive 1,000-4,000 mg/day; Neuroinhibitor; Neurotoxic to birds; Neurotransmitter; Sedative; Tranquilizer

GAMMA-EUDESOL *Rhizome* 2 - 115 ppm

No activity reported.

GAMMA-MUURENE *Rhizome* 7 - 455 ppm

No activity reported.

GAMMA-SELINENE *Rhizome* 35 - 700 ppm

No activity reported.

GAMMA-TERPINENE *Rhizome* 0.4 - 25 ppm

Acaricide; ACE-Inhibitor 100 ug/ml (weak activity); Aldose-Reductase-Inhibitor 100 ug/ml; Antiacetylcholinesterase IC23=1.2 mM; Antifeedant; Antioxidant; FLavor FEMA 1-40; Insectifuge; Irritant; Perfumery; Pesticide

GERANIAL *Rhizome* 35 - 20,000 ppm

Antibacterial; AntiEBV IC50=16 uM; Antiviral; Pesticide

GERANIOL *Rhizome* 2 - 345 ppm

Allergenic; Anthelmintic; Antibacterial MBC=800 ug/ml MIC=400 ug/ml MIC=64 ug/ml; Anticancer (Pancreas) IC50=265 uM; Anticariogenic MIC=400 ug/ml; Antimelanomic IC50=150 uM/l; Antisalmonella MIC=400 ug/ml; Antiseptic 400-800 ug/ml 7 x phenol MIC=64 ug/ml; Antispasmodic; Antitubercular; Antitumor; Antitumor (Pancreas) IC50=265 uM; Ascaricide; Cancer-Preventive; Candidicide; CNS-Stimulant; Embryotoxic; Emetic 3 x ipecac; Expectorant; FLavor FEMA 1-10; Fungicide IC93=2 mM; Herbicide IC100-2,000 uM; Insectifuge 50 ppm; Insectiphile; Mycobactericide MIC=64 ug/ml; Nematicide IC86=100 ug/ml MLC=1,000 ug/ml; Perfumery; Pesticide; Sedative; Trichomonicide LD100=300 ug/ml

GERANYL-ACETATE *Rhizome*:

Allergenic; FLavor FEMA 1-20; Insectiphile; Perfumery; Sedative

GERMANIUM *Rhizome* 87 - 169 ppm

No activity reported.

GINGEDIACETATE *Rhizome*:

No activity reported.

GINGERENONE-A *Rhizome* 118 ppm;

Anticoccidioid 10 ppm; Fungicide; Pesticide

GINGERENONE-B *Rhizome* 4.7 ppm;

Fungicide; Pesticide

GINGERENONE-C *Rhizome* 14.2 ppm;

Fungicide; Pesticide

GINGEROL-METHYL-ETHER *Rhizome*:

No activity reported.

GINGEROLS *Rhizome* 13,200 ppm;

No activity reported.

GINGERONE *Rhizome*:

No activity reported.

GLANOLACTONE *Rhizome* 120 ppm;

No activity reported.

GLOBULIN *Rhizome* 2,366 - 21,801 ppm

No activity reported.

GLUTELIN *Rhizome* 2,506 - 23,091 ppm

No activity reported.

GLYOXAL *Essential Oil*:

No activity reported.

GUAIL *Rhizome*:

No activity reported.

HEPTAN-2-OL *Rhizome* 1 - 135 ppm

No activity reported.

HEPTAN-2-ONE *Rhizome*:

No activity reported.

HEXAHYDROCURCUMIN *Rhizome*:

Cholagogue; Choloretic

HEXAN-1-AL *Rhizome* 2 - 35 ppm

No activity reported.

HEXANOL *Rhizome*:

Antiseptic; FLavor *FEMA* 0.2-25; Pesticide

HUMULENE *Rhizome*:

Antimalarial *IC*₅₀=86 ug/ml; Antiplasmodial

ISOEUGENOL-METHYL-ETHER *Rhizome* 0.6 - 40 ppm

No activity reported.

ISOGINGERENONE-B *Rhizome* 4.7 ppm;

Fungicide; Pesticide

ISOVALERALDEHYDE *Essential Oil*:

FLavor *FEMA* 0.5-5

KAEMPFEROL Plant:

11B-HSD-Inhibitor; 5-Lipoxygenase-Inhibitor IC_{50} (μM)=20; Aldose-Reductase-Inhibitor 100 μM ; Antiaflatoxin IC_{50} =3.28 ppm IC_{50} =8.73 μM ; Antiaggregant 30 μM ; Antiallergic; Antibacterial 20 $\mu g/ml$; Anticancer; Antifertility 250 mg/kg/day/60 days/orl rat; Antigingivitic 20 $\mu g/ml$; Antiherpetic 23-92 $\mu g/ml$; Antihistaminic; Antiimplantation; Antiinflammatory 20 mg/kg 200 mg/kg ipr rat; Antileukemic IC_{50} =3.1 $\mu g/ml$; Antilymphocytic; Antimutagenic ID_{50} =10-40 nM; Antioxidant 3/4 quercetin IC_{50} =1.2 $\mu g/ml$ IC_{50} =40 μM ; Antiperiodontic 20 $\mu g/ml$; Antiplaque; Antiradicular 7 x quercetin; Antiseptic 20 $\mu g/ml$; Antiserotonin 200 mg/kg ipr rat; Antispasmodic; Antistaphylococcic; Antitumor; Antitumor-Promoter; Antiulcer 50-200 mg/kg ipr rat; Antiviral 23-92 $\mu g/ml$; Apoptotic 60 μM ; Aromatase-Inhibitor IC_{12} =1 $\mu M/l$; cAMP-Phosphodiesterase-Inhibitor; Cancer-Preventive; Carcinogenic; Choleric; Copper-Chelator; COX-2-Inhibitor; Cyclooxygenase-Inhibitor IC_{50} (μM) =20; Cytotoxic; Diaphoretic?; Diuretic; Estrogenic EC_{50} =0.1-25 $\mu M/l$ EC_{50} =0.56 μM ; Fungicide 20 $\mu g/ml$; Hepatoprotective IC_{50} =1.30 ppm IC_{50} =5.46 μM ; HIV-RT-Inhibitor IC_{50} =50-150 $\mu g/ml$; Hypotensive; ICAM-1-Inhibitor; iNOS-Inhibitor IC_{50} =13.9 μM IC_{50} <15 μM ; Inotropic; Iodothyronine-Deiodinase-Inhibitor; JNK-Inhibitor; Lipoxygenase-Inhibitor; MAO-Inhibitor; Mutagenic; Natriuretic; Neuroprotective; NO-Inhibitor IC_{50} =13.9 μM ; PAF-Inhibitor; Pesticide; Protosticide; Quinone-Reductase-Inducer 3 μM ; Teratologic; TNF-alpha-Inhibitor IC_{50} =3.99 μM ; Topoisomerase-I-Inhibitor; Topoisomerase-II-Inhibitor IC_{50} =8.1 $\mu g/ml$; Tyrosinase-Inhibitor ID_{50} =230 μM ; Uterotrophic EC_{50} =0.1-25 $\mu M/l$; Vasodilator

LIMONENE Rhizome 17 - 1,050 ppm

Acaricide LC_{100} =8 μM ; AChE-Inhibitor; Allelochemic; Allergenic 1/20th carene; Acetylcholinesterase 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; Candidistat; Chemopreventive; Cholesterololytic; Detoxicant; Enterocontractant; Expectorant; FLavor; Fungiphilic; Fungistat; GST-Inducer; Herbicide IC_{50} =45 μM ; 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 ~750 mg/kg (diet); Ozone-Scavenger; P450-Inducer; Peristaltic; Pesticide; Photosensitizer; Sedative ED =1-32 mg/kg; Transdermal

LINALOL Rhizome 2 - 1,500 ppm

No activity reported.

MENTHOL-ACETATE Rhizome:

No activity reported.

METHYL-10-SHOGOAL Rhizome:

No activity reported.

METHYL-12-GINGEROL Rhizome:

No activity reported.

METHYL-6-GINGEROL Rhizome:

No activity reported.

METHYL-6-SHOGOAL *Rhizome:*

No activity reported.

METHYL-8-GINGEROL *Rhizome:*

No activity reported.

METHYL-8-SHOGOAL *Rhizome:*

No activity reported.

METHYL-ACETATE *Essential Oil:*

FLavor *FEMA 1-30*; Perfumery; Trypsin-Enhancer

METHYL-ALLYL-SULFIDE *Essential Oil:*

No activity reported.

METHYL-CAPRYLATE *Essential Oil:*

FLavor *FEMA 0.2-40*; Perfumery

METHYL-GLYOXAL *Essential Oil:*

No activity reported.

METHYL-HEPTENONE *Rhizome:*

No activity reported.

METHYL-ISOBUTYL-KETONE *Essential Oil:*

FLavor *5-18*; Perfumery

METHYL-NONYL-KETONE *Rhizome:*

FLavor *FEMA 0.5-5*; Irritant?; Perfumery

MYRCENE *Rf 2 - 950 ppm*

ACE-Inhibitor *100 ug/ml*; Aldose-Reductase-Inhibitor; Allergenic; Analgesic; Antibacterial; Anticonvulsant; Antimutagenic; Antinitrosaminic; Antinociceptive *10-20 mg/kg ipr mus 20-40 mg/kg scu mus*; Antioxidant; Antispasmodic; Chemopreventive; FLavor *FEMA 0.5-9*; Fungicide; Hypothermic; Insectifuge; Irritant; Myorelaxant *100-200 mg/kg*; P450-2B1-Inhibitor *IC50=0.14 uM*; Perfumery; Pesticide

MYRICETIN *Plant:*

Allelochemic *IC82=1 mM*; Antiallergenic; Antibacterial *MIC=20-500 ug/ml*; Antifeedant *IC52=<1,000 ppm diet*; Antigastric; Antigingivitic *MIC=20 ug/ml*; Antigonadotrophic; Antihistaminic; AntiHIV; Antiinflammatory; Antimutagenic *ID50=2-5 nM*; Antioxidant *1.4 uM IC50=3.9 ug/ml IC99=200 ppm*; Antiperiodontic *MIC=20 ug/ml*; Antiplaque; Antiseptic; Antiviral; Apoptotic *60 uM*; Cancer-Preventive; Candidicide *MIC=150 ug/ml*; COMP-Inhibitor; Diuretic; Hypoglycemic; Larvostat *IC50=2.6-3.5 mM/kg diet*; Lipoxygenase-Inhibitor; Mutagenic; Oxidase-Inhibitor; Pesticide; Quinone-Reductase-Inducer *36 uM*; Topoisomerase-I-Inhibitor *IC50=11.9 ug/ml*; Topoisomerase-II-Inhibitor; Tyrosine-Kinase-Inhibitor; Vasodilator

MYRTENAL *Rhizome 0.5 - 30 ppm*

Antimalarial *IC50=5-50 ug/ml*; Antiplasmodial; Herbicide; Perfumery; Pesticide

N-BUTYRALDEHYDE *Essential Oil:*

FLavor *FEMA* <1-5

N-DECANAL *Essential Oil:*

FLavor *FEMA* <1-4

N-HEPTANE *Rhizome:*

FLavor *FEMA*

N-NONANE *Essential Oil:*

No activity reported.

N-NONANOL *Essential Oil:*

No activity reported.

N-NONANONE *Rhizome:*

No activity reported.

N-OCTANE *Essential Oil:*

No activity reported.

N-PROPANOL *Essential Oil:*

No activity reported.

N-UNDECANONE *Rhizome:*

No activity reported.

NEO-ISOPULEGOL *Rhizome:*

No activity reported.

NERAL *Rhizome* 20 - 13,000 ppm

Antibacterial; Antispasmodic; Pesticide; Termiticide *LD100*=5 mg/g

NEROL *Rhizome:*

Antibacterial; Antiseptic; FLavor *FEMA* 1-20; Perfumery; Pesticide; Sedative;
Trichomonicide *ED100*=300 ug/ml

NEROLIDOL *Essential Oil:*

Aldose-Reductase-Inhibitor; Allergenic; Antiacne; Antibacterial *MIC*=25-200 ug/ml;
Anticariogenic; Antifeedant 1 mM (*diet*); Antistreptococcic; FLavor *FEMA* 1-10;
Nematicide *MLC*=1 mg/ml; Perfumery; Pesticide

NONAN-2-OL *Rhizome* 5 - 100 ppm

No activity reported.

NONAN-2-ONE *Rhizome* 8 - 160 ppm

No activity reported.

NONANAL *Rhizome* 2 - 50 ppm

No activity reported.

NONYL-ALDEHYDE *Rhizome:*

No activity reported.

OCTAN-1-AL *Rhizome 2 - 40 ppm*

No activity reported.

OXALIC-ACID *Rhizome 5,000 ppm;*

Acaricide; Antiseptic; CNS-Paralytic; Fatal; Hemostatic; Irritant; Pesticide; Renotoxic; Varroacide

P-COUMARIC-ACID *Rhizome 19 ppm;*

Aldose-Reductase-Inhibitor *4 ug/ml (weak activity)*; Allelopathic; Antibacterial; Anticlastogen; Antifertility; Antihepatotoxic; Antileukemic *IC50=25-56 ug/ml*; Antinitrosaminic; Antioxidant *1/3 BHA IC24=30 ppm*; Antiperoxidant *IC50=>100 uM*; Antiseptic; Antispasmodic; Antitumor; Cancer-Preventive; Chemopreventive; Choleric; Cytotoxic; Diaphoretic?; Fungicide; Lipoxygenase-Inhibitor *IC11=5 mM*; Pesticide; Prostaglandigenic; Prostaglandin-Synthesis-Inhibitor; Tyrosinase-Inhibitor *ID50=3,650 uM*

P-CYMEN-8-OL *Rhizome 0.5 - 35 ppm*

No activity reported.

P-CYMENE *Rhizome 2 - 1,300 ppm*

Analgesic; Antiacetylcholinesterase *IC40=1.2 mM*; Antibacillary; Antibacterial; Antiflu; Antirheumatologic; Antiviral; FLavor *FEMA 12-250*; Fungicide; Herbicide *IC50=50 uM*; Insectifuge; Irritant; Laxative; Pesticide; Sedative; Trichomonicide *LD100=50 ug/ml*

P-HYDROXY-BENZOIC-ACID *Plant:*

Antibacterial; Antimutagenic; Antioxidant; Antiradicular; Antisickling *10.5 ug/ml*; Cancer-Preventive; Fungistat *EC50=607 ug/ml*; Immunosuppressant; Pesticide; Phytoalexin; Prostaglandigenic; Secretagogue; Ubiquit

PARADOL *Rhizome:*

Antiseptic; Fungicide; Pesticide

PATCHOULI-ALCOHOL *Rhizome:*

Antibacterial *MIC=39->2,500*; Antiplaque *MIC=39-2,500 ug/ml*; Fungicide; Pesticide

PENTOSANS *Rhizome:*

No activity reported.

PERILLEN *Rhizome:*

No activity reported.

PERILLENE *Rhizome 1 - 95 ppm*

No activity reported.

PHOSPHATIDIC-ACID *Rhizome:*

No activity reported.

PHYTOSTEROLS *Rhizome 150 - 913 ppm*

Antiprostatotic; Hypocholesterolemic

PIPECOLIC-ACID *Rhizome 320 ppm;*

Herbistat; Pesticide

PROLAMINE Plant 1,540 - 14,190 ppm

No activity reported.

PROPIONALDEHYDE Essential Oil:

FLavor FEMA 5-12; Perfumery

QUERCETIN Plant:

11B-HSD-Inhibitor; 5-Lipoxygenase-Inhibitor IC_{50} (μM)=4; Aldehyde-Oxidase-Inhibitor IC_{70-96} =10 μM ; Aldose-Reductase-Inhibitor 100 μM 4 $\mu g/ml$ IC_{50} =0.344 μM IC_{50} =0.84 $\mu g/ml$ cow; Allelochemic IC_{82} =1 mM; Allergenic; Analgesic; Antiaflatoxin IC_{50} =25 μM IC_{50} =7.5 ppm; Antiaggregant 30 μM IC_{50} =55 μM ; Antiaging; Antiallergic IC_{50} =14 μM ; Antialzheimeran; Antianaphylactic; Antiangiogenic; Antiarthritic; Antiasthmatic; Antiatherosclerotic; Antibacterial; Anticarcinomic (Breast) IC_{50} =1.5 μM ; Anticariogenic ID_{50} =120 $\mu g/ml$; Anticataract; Anticolitic 400 mg/man/3x/day; Anticomplementary; AntiCrohn's; Anticystitic 1,000 mg/day/4 weeks; Antidepressant; Antidermatitic; Antidiabetic; Antielastase IC_{50} =0.8 $\mu g/ml$; Antiencephalitic; Antiescherichic; Antiestrogenic; Antifeedant IC_{52} =<1,000 ppm diet; Antifibrosarcomic; Antiflu; Antigastric; Antigonadotropic; AntiGTF ID_{50} =120 $\mu g/ml$; Antihepatotoxic; Antiherpetic 48-150 $\mu g/ml$; Antihistaminic IC_{50} =<10 μM ; AntiHIV; Antihydrophobic; Antihypertensive; Antiinflammatory 20-150 mg/kg; Antileishmanic IC_{50} =64; Antileukemic 5.5-60 μM IC_{50} =10 μM IC_{50} =>10 $\mu g/ml$; Antileukotriene; Antilipoperoxidant IC_{67} =50; Antimalarial IC_{50} =1-6.4 $\mu g/ml$; Antimelanomic; Antimetastatic; Antimutagenic ID_{50} =0.62 $\mu g/ml$ ID_{50} =2-5 nM; Antimyocarditic; Antinitrosaminic; Antinociceptive; Antioxidant 4.7 x Vit. E ED_{50} =2.3 μM IC_{47} =10 μM IC_{96} =300 ppm; Antipancreatic; Antiperiodontal; Antiperistaltic; Antipermeability; Antiperoxidant; Antipharyngitic; Antiplaque; Antiplasmodial IC_{50} =13-64; AntiPMS 500 mg/2x/day/wmn; Antipodriac; Antipolio; Antiproliferant 10 nM; Antiprostanoid; Antiprostatic; Antipsoriac; Antiradicular IC_{50} =4.6 μM ; Antispasmodic; Antistreptococcic ID_{50} =120 $\mu g/ml$; Antithiamin; Antithrombic; Antitrypanosomic IC_{50} =13; Antitumor 10 μM ; Antitumor (Bladder); Antitumor (Breast); Antitumor (Colon); Antitumor (Lung); Antitumor (Ovary); Antitumor (Skin) 20 μM ; Antitumor-Promoter; Antiulcer; Antiviral 48-150 $\mu g/ml$ IC_{50} =10 μM ; Apoptotic 20-60 μM ; ATPase-Inhibitor; Bacteristat 10 $\mu g/ml$; Bradycardiac; Calmodulin-Antagonist; cAMP-Phosphodiesterase-Inhibitor; Cancer-Preventive; Candidicide; Capillariprotective; Carcinogenic 40,000 ppm (diet) mus; Catabolic; COMT-Inhibitor; Copper-Chelator; COX-2-Inhibitor <40 μM ; Cyclooxygenase-Inhibitor; Cytochrome-P450-1A2-Inhibitor; Cytotoxic ED_{50} =70 $\mu g/ml$ IC_{82} =100 $\mu g/ml$; Deiodinase-Inhibitor; Diaphoretic?; Differentiator 5.5 μM ; Estrogenic 10% genistein; Fungicide; Glucosyl-Transferase-Inhibitor ID_{50} =120 $\mu g/ml$; Hemostat; Hepatomagenic 5,000 ppm (diet) rat; Hepatoprotective; HIV-RT-Inhibitor IC_{50} =<1 $\mu g/ml$; Hypoglycemic 100 mg/kg orl rat; iNOS-Inhibitor IC_{50} =20 μM ; Inotropic; Insulinogenic; Juvabional; Larvostat 8,000 ppm diet; Lipoxygenase-Inhibitor IC_{11} =1.25 mM IC_{50} =0.1-5 μM ; MAO-A-Inhibitor; Mast-Cell-Stabilizer; Metal-Chelator (Copper); Metalloproteinase-Inhibitor IC_{50} =>42 μM ; MMP-9-Inhibitor 20 μM ; Mutagenic; NADH-Oxidase-Inhibitor; NEP-Inhibitor IC_{50} =>42 μM ; Neuroprotective 5-25 μM ; NF-kB-Inhibitor; NO-Inhibitor IC_{50} =20 μM IC_{50} >50=125 μM ; NO-Synthase-Inhibitor 5-50 μM ; Ornithine-Decarboxylase-Inhibitor <10 μM ; P450-Inducer 5 μM ; P450-Inhibitor 50-100 μM ; Pesticide; PGE2-Inhibitor; Phospholipase-Inhibitor; Plasmodicide; Proliferant; Prostaglandin-Synthesis-Inhibitor 40 $\mu g/ml$; Protein-Kinase-C-Inhibitor; PTK-Inhibitor 0.4-24 μM ; Quinone-Reductase-Inducer 13 μM 6 μM ; Teratologic; TNF-alpha-Inhibitor IC_{50} =3.11 μM ; Topoisomerase-I-Inhibitor IC_{50} =12.8 $\mu g/ml$ IC_{50} =42 μM ; Topoisomerase-II-Inhibitor IC_{50} =1-6.9 $\mu g/ml$ IC_{50} =23-40 μM ; Tumorigenic 0.1% diet orl rat/yr; Tyrosinase-Inhibitor

ID50=70 uM; Tyrosine-Kinase-Inhibitor; Vasodilator; VEGF-Inhibitor; Xanthine-Oxidase-Inhibitor *3.1 uM IC50=10.6 ug/ml IC50=>0.4 ug/ml*

RAFFINOSE *Rhizome*:

Flatugenic

ROSEFURAN *Rhizome 1 - 90 ppm*

No activity reported.

SABINENE *Rhizome 0.5 - 35 ppm*

Antibacterial; Antihelicobacter; Antiseptic; Antiulcer; Perfumery

SEC-BUTANOL *Essential Oil*:

No activity reported.

SELINA-3,7(11)-DIENE *Rhizome 1 - 65 ppm*

No activity reported.

SESQUITHUJENE *Essential Oil*:

No activity reported.

SHOGAOLS *Rhizome 1,800 ppm*;

No activity reported.

TERPINEN-4-OL *Rhizome*:

Allelopathic; Antiacetylcholinesterase *IC21-24=1.2 mM*; Antiacne; Antiallergic; Antiasthmatic; Antibacterial; Antioxidant; Antiseptic; Antispasmodic; Antitussive; Antiulcer; Bacteriostatic; Diuretic *0.1 ml/rat*; Fungicide; Herbicide *IC50=200 mM IC50=22 uM*; Insectifuge; Irritant; Nematicide *MLC=1 mg/ml*; Pesticide; Renoirritant; Spermicide *ED100=0.015*; Vulnerary

TERPINOLENE *Rhizome 1 - 90 ppm*

Allelochemic; Antifeedant; Antinitrosaminic; Antioxidant; Deodorant; FLavor *FEMA 15-60*; Fungicide; Perfumery; Pesticide

TERT-BUTANOL *Essential Oil*:

No activity reported.

TRAN-6-SHOGOAL *Rhizome 40 ppm*;

No activity reported.

TRAN-8-SHOGOAL *Rhizome 40 ppm*;

No activity reported.

TRANS-10-SHOGOAL *Rhizome*:

No activity reported.

TRANS-12-SHOGOAL *Rhizome*:

No activity reported.

TRANS-BETA-FARNESENE *Rhizome 1 - 60 ppm*

Insectifuge; Pesticide

TRANS-BETA-SESQUIPELLANDROL *Rhizome 6 - 360 ppm*

No activity reported.

TRANS-LINALOL-OXIDE *Rhizome:*

No activity reported.

TRANS-NEROLIDOL *Rhizome 5 - 350 ppm*

No activity reported.

TRANS-OCTEN-2-AL *Rhizome:*

No activity reported.

TRICYCLENONE *Rhizome 2 - 115 ppm*

No activity reported.

UNDECAN-2-OL *Rhizome 1 - 25 ppm*

No activity reported.

UNDECAN-2-ONE *Rhizome:*

No activity reported.

VANILLIC-ACID *Plant:*

Aldose-Reductase-Inhibitor *100 uM/l*; Allelopathic; Anthelmintic; Antibacterial *1.5-15 mg/ml*; Anticancer; Antifatigue; Antiinflammatory; Antileukemic *IC50=25-56 ug/ml*; Antioxidant *1/3 BHA IC21=30 ppm*; Antiperoxidant *IC15-65=100-200 ug/ml*; Antiradicular *7 x quercetin*; Antiseptic; Antisickling; Antitumor; Antitumor-Promoter; Ascaricide; Cancer-Preventive; Choleric; Fungicide; Immunosuppressant; Laxative; Pesticide; Ubiquitin

VANILLIN *Plant:*

Allelochemic *IC50=4.26 mM*; Allergenic; Antianemic; Anticancer; Antidrepanocytic; Antiescherichic *10-100 mmol/l*; Antilactobacillic; Antilisteria; Antimutagenic; Antioxidant =*ascorbic acid*; Antipolio; Antiradicular *7 x quercetin*; Antisickling; Antitumor; Antitumor-Promoter; Antiviral; Antiyeast *8-30 mM*; Bacteriostat *10-40 mmol/l*; Cancer-Preventive; Candidicide *8-20 mM*; Choleric; FLavor *FEMA 50-20,000*; Fungicide; Immunosuppressant; Insectifuge?; Irritant; Perfumery; Pesticide

VIT-B-6 *Rhizome 1.6 - 8.7 ppm*

No activity reported.

XANTHORRHIZOL *Rhizome 1 - 50 ppm*

No activity reported.

ZINGERBERONE *Essential Oil:*

No activity reported.

ZINGERONE *Rhizome:*

5-Lipoxygenase-Inhibitor; Adrenergic; Antiatherosclerotic *IC50=8.9 uM*; Antiinflammatory; Antioxidant (LDL); Cardiogenic; Cyclooxygenase-Inhibitor; FLavor *FEMA 1-100*; Hypotensive; Paralytic; Perfumery; Secretagogue; Vasodilator

ZINGIBAIN *Rhizome:*

Proteolytic

ZINGIBERENE *Rhizome* 0.5 - 30 ppm

Antirhinoviral; Antiulcer $IC_{50}=100$ mg/kg; Carminative; Insecticide; Perfumery; Pesticide

ZINGIBERENES *Rhizome* 890 - 17,836 ppm

No activity reported.

ZINGIBERENOL *Rhizome*:

No activity reported.

ZINGIBEROL *Rhizome* 8,000 ppm;

No activity reported.

ZINGIBERONE *Rhizome* 0.3 - 20 ppm

Antimutagenic; Antiulcer

ZONARENE *Essential Oil*:

No activity reported.