

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals and their Biological Activities in: *Mentha spicata* L. (Lamiaceae) -- Hortela da Folha Miuda, Spearmint

Chemicals

(+)-DIHYDROCARVONE *Leaf* 550 - 13,750 ppm

No activity reported.

(+)-ISOMENTHONE *Leaf* 23 - 575 ppm

No activity reported.

(+)-MENTHOFURAN *Leaf* 4 - 100 ppm

No activity reported.

(+)-NEOMENTHOL *Leaf* 1 - 25 ppm

No activity reported.

(+)-PULEGONE *Leaf* 8,300 ppm;

Antiacetylcholinesterase $IC_{50}=0.9$ mM $IC_{50}=136$ ug/ml; Irritant ZEB; Perfumery

1,8-CINEOLE *Plant* 80 - 9,375 ppm

(-)-Chronotropic 87 nl/ml; (-)-Inotropic; Acaricide $LC_{100}=6$ uM; Allelopathic; Allergenic; Anesthetic; Anthelmintic; Antiacetylcholinesterase $IC_{50}=41$ ug/ml; Antiallergic; Antibacterial 50 ppm; Antibronchitic; Anticariogenic; Anticatarrh; Anticholinesterase $IC_{50}=50-70$; Antifatigue; Antihalitosis; Antiinflammatory; Antilaryngitic; Antinociceptive; Antipharyngitic; Antiplateau; Antirheumatic; Antirhinitic; Antiseptic; Antisinusitic; Antispasmodic; Antistaphylococcic 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; Hepatonic; Herbicide $IC_{50}=78$ uM; 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 $LD_{100}=1,000$ ug/ml

1-HYDROXY-2-ACETOXY-P-MENTH-8(9)-ENE *Leaf*.

No activity reported.

2-AMINO-ADIPIC-ACID *Shoot* 1.6 ppm;

No activity reported.

2-AMYL-FURAN *Leaf:*

No activity reported.

2-ETHYL-FURAN *Leaf:*

No activity reported.

2-METHOXY-4-VINYL-PHENOL *Shoot:*

FLavor *FEMA 0.2-10*; Perfumery

2-METHYL-2-METHYL-BUTYRATE *Leaf:*

No activity reported.

2-METHYL-BUTAN-1-OL *Leaf:*

No activity reported.

2-METHYL-BUTYL-2-METHYL-BUTYRATE *Leaf:*

No activity reported.

2-METHYL-BUTYL-ISOVALERATE *Leaf:*

No activity reported.

2-METHYL-BUTYRALDEHYDE *Leaf:*

No activity reported.

2-METHYL-ETHYL-BUTYRATE *Leaf:*

No activity reported.

2-METHYL-PROPAN-1-OL *Leaf:*

No activity reported.

3(5',5'-DIMETHYL-TETRAHYDROFURAN-2'-YL)-BUT-CIS-2-EN-1-OL *Leaf 3 - 75 ppm*

No activity reported.

3-METHYL-BUTAN-1-OL *Leaf:*

No activity reported.

4-HYDROXY-PIPERITONE *Plant:*

No activity reported.

5-HYDROXY-CARVONE *Plant:*

No activity reported.

5-METHYL-HEX-2-EN-1-AL *Leaf:*

No activity reported.

8-HYDROXY-9-ACETOXY-MENTH-1-ENE *Leaf:*

No activity reported.

ACETIC-ACID *Plant:*

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

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

ACETOIN Leaf:

No activity reported.

ACETOPHENONE Leaf:

Antibacterial; Fungicide; Hypnotic; Perfumery *FEMA* <10,000; Pesticide; Soporific

ALPHA-FENCHENE Leaf:

No activity reported.

ALPHA-HUMULENE Leaf:

Antitumor; Perfumery

ALPHA-LIMONENE-1,2-OXIDE Leaf:

No activity reported.

ALPHA-METHYL-P-METHYL-STYRENE Leaf:

No activity reported.

ALPHA-PINENE Leaf 5 - 375 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 *IC*50=30 uM; Insecticide 0.82 uM/fly; Insectifuge 50 ppm; Insectiphile; Irritant; P450-2B1-Inhibitor *IC*50=0.087 uM; Perfumery; Pesticide; Sedative; Spasmogenic; Tranquilizer; Transdermal

ALPHA-TERPINEOL Leaf:

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 *ED*50=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 *IC*100=5 mg/g; Transdermal; Vulnerary *ED*50=240 ug/g mus

ALPHA-THUJENE Leaf:

No activity reported.

APIGENIN Leaf:

11B-HSD-Inhibitor; AntiADD; Antiaflatoxin *IC*50=2.57 ppm *IC*50=9.52 uM; Antiaggregant; Antiaging; Antiallergic; Antiangiogenic 4 uM; Antiarrhythmic; Antibacterial; Anticancer (Lung); Anticomplementary; Antidermatitic; Antiestrogenic; Antiherpetic 20-54 ug/ml; Antihistaminic *IC*50=10-35 uM; AntiHIV *IC*50=143 ug/ml *IC*72=200 ug/ml; Antiinflammatory = indomethacin *IC*~65=1,000 uM; Antileukemic 20-50 uM; Antimelanomic 1-50 uM; Antimetastatic; Antimutagenic *ID*50=0.55 ug/ml *ID*50=10-40 nM; Antioxidant 1.5 x *Vit. E* *IC*28.5=62.5 ug/ml; Antiperistaltic; Antiproliferant 1-50 uM *IC*50=155 uM; Antispasmodic *EC*50=1-5 uM; Antistress 10 mg/kg; Antithyroid; Antitumor 1-50 uM; Antitumor (Breast); Antitumor (Lung); Antitumor (Skin); Antiviral 20-54 ug/ml; Anxiolytic 10 mg/kg; Apoptotic 12-60 uM; Aromatase-Inhibitor *IC*65=1 uM/l; Beta-Glucuronidase-Inhibitor *IC*50=~40 uM;

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 $30-100 \text{ mg/kg}$; 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 $0.36 \mu M$

BENZALDEHYDE Leaf:

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 $LD_{100}=5 \text{ mg/g}$; Tyrosinase-Inhibitor $ID_{50}=0.82 \text{ mM}$ $ID_{50}=820 \mu M$ $ID_{50}=830 \mu M$ $ID_{50}=87 \mu g/ml$

BENZYL-2-METHYL-BUTYRATE Leaf:

No activity reported.

BENZYL-ALCOHOL Leaf:

Allergenic; Anesthetic; Antiodontalgic; Antipruritic; Antiseptic; FLavor *Fema 200-1,200*; Fungicide; Pesticide; Sedative

BENZYL-ISOBUTYRATE Leaf:

FLavor *FEMA 25*

BETA-BOURBONENE Leaf 2 - 50 ppm

No activity reported.

BETA-CARYOPHYLLENE Leaf:

No activity reported.

BETA-CARYOPHYLLENE-OXIDE Leaf:

No activity reported.

BETA-ELEMENE Leaf:

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

BETA-HUMULENE Leaf:

No activity reported.

BETA-IONONE Leaf:

Allergenic; Antibacterial $MIC=200 \mu g/ml$; Anticariogenic $MIC=100 \mu g/ml$;

Antimelanomic $IC_{50}=140 \mu M/l$; Antitumor; Cancer-Preventive; Cytochrome-P450-Inducer; Fungicide; Hypocholesterolemic; Nematicide $MLC=1 \text{ mg/ml}$; P450-Inducer; Pesticide; Trichomonicide $LD_{100}=100 \text{ ug/ml}$

BETA-LIMONENE-1,2-OXIDE Leaf:

No activity reported.

BETA-PHENETHYL-ALCOHOL Leaf:

No activity reported.

BETA-PHENETHYL-BUTYRATE Leaf:

No activity reported.

BETA-PHENETHYL-ISOBUTYRATE Leaf:

No activity reported.

BETA-PHENETHYL-ISOVALERATE Leaf:

No activity reported.

BETA-PHENETHYL-METHYL-BUTYRATE Leaf:

No activity reported.

BETA-PHENETHYL-METHYL-ETHER Leaf:

No activity reported.

BETA-PINENE Leaf 9 - 3,425 ppm

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

BICYCLOELEMENE Leaf:

No activity reported.

BORNEOL Leaf:

(-)-Chronotropic 29 ug/ml ; (-)-Inotropic; Allelochemic; Analgesic; Antiacetylcholine; Antibacterial $MIC=125-250 \text{ ug/ml}$; Antibronchitic; Antiescherichic $MIC=125 \text{ ug/ml}$; Antifeedant; Antiinflammatory; Antiotitic; Antipyretic; Antisalmonella; Antispasmodic $ED_{50}=0.008 \text{ mg/ml}$; Antistaphylococcic $MIC=250 \text{ ug/ml}$; Antiyeast; Candidicide; Choleric; CNS-Stimulant; CNS-Toxic; FLavor *FEMA* <1; Fungicide; Hepatoprotective; Herbicide $IC_{50}=470 \text{ mM}$ $IC_{50}=470 \text{ uM}$; Inhalant; Insect-Repellent; Insectifuge; Irritant; Myorelaxant; Nematicide $MLC=1 \text{ mg/ml}$; Perfumery; Pesticide; Sedative; Tranquilizer

CADINOL Leaf:

No activity reported.

CAMPHENE Leaf:

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

CAPRYLIC-ACID Plant:

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

CAR-3-ENE Leaf:

No activity reported.

CARVACROL Leaf:

Allergenic; Anesthetic; Anthelmintic; Antialzheimeran?; Antiatherosclerotic $IC_{50}=5.53$ μM ; Antibacterial MIC 170-290 $MIC=39-625$; Anticholinesterase?; Antidiuretic; Antiinflammatory $IC_{50}=4$ μM ; Antimelanomic $IC_{50}=120$ $\mu M/l$; Antioxidant; Antioxidant (LDL) $IC_{50}=5.53$ μM ; Antiplaque $MIC=39-625$ $\mu g/ml$; Antiprostaglandin; Antiradicular 600 x thymol; Antiseptic 1.5 x phenol; Antispasmodic; Antistaphylococcic; Antistreptococcic; Antitussive; Candidicide 100-150 $\mu g/ml$ $MIC<0.1$ $\mu g/ml$; Carminative; Cyclooxygenase-Inhibitor =indomethacin; Enterorelaxant; Expectorant; FLavor FEMA 10-125; Fungicide; Insectifuge; Irritant; Nematicide $MLC=1$ mg/ml ; Pesticide; Prostaglandin-Inhibitor; Tracheorelaxant; Trichomonicide $LD_{100}=150$ $\mu g/ml$; Vermifuge

CARVONE Leaf: Plant 495 - 20,000 ppm

Allergenic; Antiacetylcholinesterase $IC_{50}=1.4-1.8$ mM ; Antiproliferative; Antiseptic 1.5 x phenol; Cancer-Preventive; Candidistat; Carminative; CNS-Stimulant; FLavor FEMA 80-3,000; Fungistat; Insecticide; Insectifuge; Motor-Depressant; Nematicide $MLC=1$ mg/ml ; Perfumery; Pesticide; Sedative; Trichomonicide $LD_{100}=300$ $\mu g/ml$; Vermicide

CARVONE-10-ACETATE Leaf:

No activity reported.

CARVONE-8,9-OXIDE Leaf:

No activity reported.

CARVYL-6,7-OXIDE-ACETATE Leaf:

No activity reported.

CARYOPHYLLENE Leaf 3 - 1,950 ppm

Aldose-Reductase-Inhibitor; Allergenic; Analgesic; Antiacne; Antiasthmatic; Antibacterial; Anticariogenic $MIC=>1,600$ $\mu g/ml$; Antidermatitic; Antiedemic; Antifeedant 500 ppm; Antiinflammatory $IC_{50}=100$ μM ; Antileishmanic; Antionychotic; Antiproliferant; Antispasmodic; Antistaphylococcic; Antistreptococcic; Antitumor; Antiulcer; Candidicide; FLavor FEMA 20-200; Fungicide; Gastroprotective; Insectifuge; Irritant; Larvicide; Mosquitocide; Perfumery; Pesticide; Sedative; Termitifuge

CHLOROFORM Leaf:

No activity reported.

CHLOROPHYLL-A Leaf 2,755 ppm;

No activity reported.

CHLOROPHYLL-B Leaf 1,299 ppm;

No activity reported.

CINEOLE Leaf 10 - 1,500 ppm

No activity reported.

CIS-2,5-DIETHYL-TETRAHYDROFURAN *Leaf*:

No activity reported.

CIS-BETA-COPAENE *Leaf*:

No activity reported.

CIS-CARVEOL *Leaf 4 - 100 ppm*

No activity reported.

CIS-CARVONE-OXIDE *Leaf*:

No activity reported.

CIS-CARVYL-ACETATE *Leaf 18 - 450 ppm*

No activity reported.

CIS-CARVYL-FORMATE *Leaf*:

No activity reported.

CIS-JASMONE *Leaf 1 - 25 ppm*

No activity reported.

COPAENE *Leaf*:

Carminative

DECAN-1-OL *Plant*:

No activity reported.

DECAN-3-OL *Plant*:

No activity reported.

DEHYDROCARVACROL *Leaf*:

No activity reported.

DELTA-CADINENE *Leaf 2 - 38 ppm*

Aldose-Reductase-Inhibitor; Antiacne; Antibacterial *MIC800 ug/ml*; Anticariogenic; Antistreptococcic; Cytochrome-P450-Inducer; P450-Inducer; Pesticide; Testosterone-Inducer

DIACETYL *Leaf*:

FLavor *FEMA 3-50*; Irritant

DIHYDROCARVEOL *Leaf 13 - 325 ppm*

FLavor *FEMA 5-500*; Irritant

DIHYDROCARVONE *Leaf 18 - 4,475 ppm*

No activity reported.

DIHYDROCARVYL-ACETATE *Leaf 16 - 400 ppm*

FLavor *FEMA 5-500*

DIMETHYL-SULFIDE *Leaf*:

FLavor *FEMA 0.1-2*; Irritant

DIMETHYL-SULFOXIDE Leaf:

Antioxidant

DIOSMETIN Plant:

Aldose-Reductase-Inhibitor $IC_{17}=10\ \mu M$; Antimutagenic $IC_{50}=10-40\ nM$;
Antirhinoviral; Antiviral; Cancer-Preventive

DIOSMETIN-7-GLUCOSIDE Plant:

No activity reported.

DIOSMETIN-7-O-BETA-D-GLUCURONIDE Leaf:

No activity reported.

DIOSMIN Leaf:

Anticancer; Anticapillary-Fragility $300\ mg/2x/day/woman$; Anticarcinogenic;
Anticlastogen; AntiCVI; Anticytotoxic; Antiedemic $50-200\ mg/kg/day$ $600\ mg/kg\ rat$;
Antihemorrhoidal $450\ mg\ 2x/day\ x7days$ then $1x/day\ x2months$; Antihistaminic;
Antiinflammatory $600\ mg/kg\ rat$; Antileukotriene; Antimelanomic; Antimetastatic;
Antimetrorrhagic; Antioxidant; Antiperoxidant; Antiproliferant; Antiprostaglandin;
Antiradicular; Antithromboxane; Antiulcer; Chemopreventive; COMT-Inhibitor $200-400\ mg/kg\ ip$;
Cyclooxygenase-Inhibitor; Cytoprotective; Diuretic; Hypoglycemic;
Lipoxygenase-Inhibitor; MDR-Inhibitor $100\ \mu M$; P450-Inhibitor; Radioprotective;
Venoprotective; Venotonic

ELEMOL Leaf:

Antiacetylcholinesterase $IC_{50}=34\ \mu g/ml$; Antiulcer

EPIBULGARENE Leaf:

No activity reported.

EPIMUROLENE Leaf:

No activity reported.

ETHYL-ISOBUTYRATE Leaf:

FLavor *FEMA* 20-200; Irritant

ETHYL-N-VALERATE Leaf:

No activity reported.

EUGENOL Leaf:

Acaricide $LD_{50}=5.47\ \mu g/sq\ cm$ cf *DEET* at $37.59\ \mu g/sq\ cm$; Allergenic; Analgesic;
Anesthetic 200-400; Antiaggregant $IC_{50}=0.3\ \mu M$; Antiarachidonate; Antibacterial 500
ppm $MBC=400\ \mu g/ml$; Anticonvulsant; Antiedemic 100; Antiestrogenic; Antifeedant;
Antigenotoxic 50-500 $mg/kg\ orl\ mus$; Antitherpetic $IC_{50}=16.2-25.6\ \mu g/ml$;
Antiinflammatory (11 μM) $IC_{97}=1,000\ \mu M$; Antikeratotic $IC_{50}=16.2-25.6\ \mu g/ml$;
Antimitotic; Antimutagenic; Antinitrosating; Antioxidant 10 μM $IC_{65}=30\ ppm$;
Antiprostaglandin 11 μM $IC_{50}=9.2\ mM$; Antipyretic 3 $ml/man/day$; Antiradicular
 $EC_{50}=2\ \mu l/l$; Antisalmonella $MIC=400\ \mu g/ml$; Antiseptic 3 $ml/man/day$ 400 $\mu g/ml$;
Antispasmodic; Antistaphylococcic; Antithromboxane; AntiTNF; Antitumor; Antiulcer;
Antiviral $IC_{50}=16.2-25.6\ \mu g/ml$; Apifuge; Calcium-Antagonist $IC_{50}=200\ \mu M$ *gpg*
 $IC_{50}=224\ \mu M$; Cancer-Preventive; Candidicide; Carcinogenic?; Carminative;
Choleretic; CNS-Depressant; COX-1-Inhibitor $IC_{97}=1,000\ \mu M$; COX-2-Inhibitor

IC50=129 uM IC>97=1,000 uM; Cytochrome-P450-Inhibitor; Cytotoxic 25 ug/ml; Dermatitigenic; 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

FARNESENE Leaf:

Pesticide; Pheromone

FARNESOL Leaf:

Allergenic; Antiadenomic; Anticancer (Pancreas) *IC50=39 uM*; Anticarcinomic (Colon); Anticarcinomic (Lung); Antileukemic; Antimelanomic *IC50=50 uM/l*; Antispasmodic; Apoptotic; FLavor *FEMA 0.1-3*; Juvabional; Nematicide *MLC=100 ug/ml*; Perfumery; Pesticide; Pheromonal; Sedative; Trichomonicide *LD100=100 ug/ml*

FURFURAL Leaf:

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

GAMMA-CADINENE Leaf 2 - 33 ppm

No activity reported.

GAMMA-TERPINENE Leaf:

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

GERANIOL Leaf:

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-ACETONE Leaf:

Irritant; Perfumery *Fragrance*

HEPT-CIS-4-EN-1-AL Leaf:

No activity reported.

HEPT-TRANS-2-EN-1-AL Leaf:

No activity reported.

HEPTAN-1-AL Plant:

No activity reported.

HEPTAN-1-YL-2-METHYL-BUTYRATE Plant:

No activity reported.

HEPTAN-1-YL-ISOVALERATE *Plant:*

No activity reported.

HEPTAN-3-OL *Plant:*

No activity reported.

HEPTAN-3-ONE *Plant:*

No activity reported.

HESPERIDIN *Plant:*

Analgesic; Anti-LDL; Antiallergenic; Antibradykinic; Anticapillary-Fragility; AntiDNA; Antiflu; Antihistaminic; Antiinflammatory *IC*₄₇=50 mg/kg *scu* *IC*₆₃=100 mg/kg *scu*; Antileukotriene; Antioxidant *IC*₅₀=8 ppm; Antiprostaglandin; AntiRNA; Antistomatitic; Antitriglyceride; Antiulcer 100-150 mg/kg *ipr*; Antivaccinia; Antiviral; Anxiolytic; Calcium-Antagonist *IC*₅₀=1.2 uM *rht*; Capillariprotective; Catabolic; Choleric; CNS-Depressant 100-150 mg/kg *ipr*; Cyclooxygenase-Inhibitor; Hypolipidemic; Lipoxygenase-Inhibitor; Pesticide; ProHDL; Vasopressor

HEX-CIS-3-EN-1-OL *Leaf:*

No activity reported.

HEX-CIS-3-EN-1-OL-2-METHYL-BUTYRATE *Leaf:*

No activity reported.

HEX-CIS-3-EN-1-OL-ACETATE *Leaf:*

No activity reported.

HEX-CIS-3-EN-1-OL-ISOBUTYRATE *Leaf:*

No activity reported.

HEX-CIS-3-EN-1-OL-ISOVALERATE *Leaf 2 - 50 ppm*

No activity reported.

HEX-CIS-3-EN-1-OL-PHENYLACETATE *Leaf:*

No activity reported.

HEX-TRANS-2-EN-1-OL *Leaf:*

No activity reported.

HEX-TRANS-2-EN-1-OL-ACETATE *Leaf:*

No activity reported.

HEX-TRANS-3-EN-1-OL *Leaf:*

No activity reported.

HEXAHYDRO-FARNESYL-ACTONE *Leaf:*

No activity reported.

HEXAN-1-AL *Leaf:*

No activity reported.

HEXAN-1-OL *Leaf:*

No activity reported.

HEXAN-1-YL-2-ISOVALERATE *Leaf:*

No activity reported.

HEXAN-1-YL-2-METHYL-BUTYRATE *Leaf:*

No activity reported.

HEXAN-1-YL-PHENYLACETATE *Leaf:*

No activity reported.

ISOAMYL-2-METHYL-BUTYRATE *Plant:*

No activity reported.

ISOAMYL-ISOVALERATE *Plant:*

No activity reported.

ISOBORNYL-ACETATE *Leaf 11 - 275 ppm*

Insectifuge; Pesticide

ISOBUTYL-2-METHYL-BUTYRATE *Leaf:*

No activity reported.

ISOBUTYRALDEHYDE *Leaf:*

Perfumery

ISOCARYOPHYLLENE *Leaf:*

Perfumery

ISODIHYDROCARVONE *Leaf 75 - 1,875 ppm*

No activity reported.

ISOMENTHONE *Leaf 50 - 125 ppm*

Antiacetylcholinesterase $IC_{50}=1.6$ mM; Antioxidant; Antiradicular

ISOPINOCAMPHONE *Leaf:*

Convulsant; Epileptogenic; Neurotoxic; Pesticide

JASMONE *Leaf:*

Antibacterial $MIC=800-1,600$ ug/ml; Anticariogenic; Cancer-Preventive; Insectiphile; Nematicide $MLC=1$ mg/ml; Perfumery; Pesticide; Trichomonicide $LD_{100}=200$ ug/ml

L-PHELLANDRENE *Plant:*

No activity reported.

LAVANDULYL-BUTYRATE *Leaf:*

No activity reported.

LF *Plant:*

No activity reported.

LIMONENE Plant 7 - 9,075 ppm

Acaricide $LC_{100}=8\ \mu M$; AChE-Inhibitor; Allelochemical; 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

LIMONENENE-8,9-OXIDE Leaf:

No activity reported.

LINALOL Plant 11 - 9,375 ppm

No activity reported.

LUTEOLIN Leaf:

Aldose-Reductase-Inhibitor $EC=3\ ppm$ $IC_{50}=0.45\ \mu M$ rat; Antiallergic; Antiangiogenic
 $IC_{60-75}=10\ \mu M$; Antiatherogenic; Antibacterial $MIC=500\ \mu g/ml$; Anticarcinogenic;
Anticarcinomic; Anticataract $EC=3\ ppm$; Anticomplementary; Antidermatic;
Antiestrogenic; Antifeedant $IC_{52}<1,000\ ppm$ diet; Antiherpetic $11-23\ \mu g/ml$;
Antihistaminic $<10-15\ \mu M$; AntiHIV; Antiinflammatory =indomethacin; Antileukemic
 $20-50\ \mu M$; Antilymphomic; Antimelanomic; Antimutagenic $ID_{50}=0.44\ \mu g/ml$ $ID_{50}=2-5\ nM$;
Antinociceptive; Antioxidant $IC_{50}=10\ \mu M$; Antipolio; Antiproliferant;
Antispasmodic; Antitumor $1-50\ \mu M$; Antitumor (brain); Antitumor (Colon); Antitumor
(Kidney); Antitumor (Lung); Antitumor (Ovary); Antitumor (Pancreas); Antitumor
(Skin) $20\ \mu M$; Antitumor (Stomach); Antitumor (Thyroid) $12-50\ \mu M$; Antitussive;
Antiviral $11-23\ \mu g/ml$; Aphidifuge; Apoptotic $12-50\ \mu M$; Aromatase-Inhibitor $IC_{35}=1\ \mu M/l$;
Beta-Glucuronidase-Inhibitor $IC_{50}\sim 40\ \mu M$; Calcium-Antagonist $IC_{50}=1.2\ \mu M$
rht; Cancer-Preventive; Chemopreventive; Choleric; Cytotoxic $1-50\ \mu M$; Deiodinase-
Inhibitor; Differentiator $IC>40=40\ \mu M$; Diuretic; Estrogenic 58% genistein;
Hepatoprotective; Hyaluronidase-Inhibitor $IC_{50}+=100-250\ \mu M$; Hypocholesterolemic;
ICAM-1-Inhibitor; IKK-Inhibitor; iNOS-Inhibitor; Iodothyronine-Deiodinase-Inhibitor;
Lipoxygenase-Inhibitor; MAPK-Inhibitor; Metalloproteinase-Inhibitor; MMP-9-
Inhibitor $20\ \mu M$; Myorelaxant; NEP-Inhibitor $IC_{50}=>42\ \mu M$; NF-kB-Inhibitor; NO-
Inhibitor; Pesticide; Proliferant; Prostaglandin-Synthetase-Inhibitor; Protein-Kinase-C-
Inhibitor $IC_{70}=50\ \mu M$; PTK-Inhibitor $10-100\ \mu M$; Succinoxidase-Inhibitor; TNF-alpha-
Inhibitor $IC_{50}=14.44\ \mu M$; Topoisomerase-I-Inhibitor; Vasodilator; VEGF-Inhibitor
 $IC_{50}=2-7\ \mu M$; Xanthine-Oxidase-Inhibitor $IC_{50}=0.11\ \mu g/ml$

LUTEOLIN-7-O-BETA-D-GLUCURONIDE Leaf:

No activity reported.

MENTHOL Leaf 375 ppm; 8 - 200 ppm

Allergenic; Analgesic; Anesthetic $2,000\ ppm$; Antiacetylcholinesterase $IC_{50}=2.0\ mM$;
Antiaggregant $IC_{50}=750$; Antiallergic; Antiasthmatic; Antibacillus $MIC=1.25\ mg/ml$;
Antibacterial $MIC=0.625-2.5$; Antibronchitic; Antidandruff; Antiescherichic $MIC=1.25$

mg/ml; Antihalitosis; Antihistaminic; Antiinflammatory; Antilisteria *MIC*=0.625 *mg/ml*; Antineuralgic; Antiodontalgic; Antipruritic; Antipyretic; Antirheumatic; Antisalmonella; Antiseptic 4 x *phenol*; Antisinusitic; Antispasmodic *ED50*=0.01 *mg/ml*; Antistaphylococcic *MIC*=0.625 *mg/ml*; Antistreptococcic *MIC*=0.4 *mg/ml*; Antitartar; Antivaginitic; Antivulvitic; Bradycardic 65 *mg/3 x day/woman*; Bronchomucolytic; Bronchomucotropic; Bronchorrheic; Calcium-Antagonist; Candidicide *MIC*=0.625 *mg/ml*; Carminative; Choleric; Ciliotoxic; CNS-Depressant; CNS-Stimulant; Congestant; Convulsant; Counterirritant; Decongestant? 11 *mg/man*; Dermatitigenic; Diaphoretic; Enterorelaxant; Expectorant; Gastroedative; Irritant; Myorelaxant; Nematicide *MLC*=1 *mg/ml*; Neurodepressant; Neuropathogenic 40-100 *mg/day/rat*; Nociceptive; Perfumery; Pesticide; Refrigerant; Rubefacient; Termiticide; Transdermal; Vibriocide

MENTHOL-ACETATE Leaf 375 ppm;

No activity reported.

MENTHONE Leaf 4 - 1,300 ppm 438 - 10,950 ppm

Acaricide; Allelopathic; Analgesic; Antiacetylcholinesterase *IC50*=1.4 mM; Antiaggregant *IC50*=750; Antiallergic; Antibacillary *MIC*=1.25 *mg/ml*; Antibacterial *MIC*=0.625-5 *mg/ml*; Antiescherichic *MIC*=5 *mg/ml*; Antihistaminic; Antilisteria *MIC*=1.25 *mg/ml*; Antisalmonella *MIC*=5 *mg/ml*; Antiseptic 2.25 x *phenol*; Antispasmodic *ED50*=0.044 *mg/ml*; Antistaphylococcic *MIC*=0.625-2.5 *mg/ml*; Cancer-Preventive; Candidicide *MIC*=2.5 *mg/ml*; Cerebrotoxic *orl man*; Culicide *LC50*=156-194 *mg/l*; FLavor FEMA 5-50; Fungicide; Insecticide *LC50*=156-194 *mg/l*; Larvicide; Mutagenic; Nematicide *MLC*=1 *mg/ml*; Perfumery; Pesticide; Psychoactive; Sedative; Trichomonicide *LD100*=600 *ug/ml*

METHANOL Leaf:

Antidote =Sodium-bicarbonate; AntiHIV *EC50*=<20 *ug/ml*

METHYL-HEPTENONE Leaf:

No activity reported.

MYRCENE Plant 21 - 1,350 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

MYRTENAL Leaf:

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

MYRTENOL Leaf:

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

MYRTENYL-ACETATE Leaf:

Perfumery

N-BUTYRALDEHYDE Leaf:

FLavor FEMA <1-5

N-VALERALDEHYDE Leaf:

FLavor *FEMA 1-5*

NEO-ISOPULEGOL Plant:

No activity reported.

NEODIHYDROCARVEOL Leaf 3 - 75 ppm

No activity reported.

NERYL-ACETATE Leaf 27 - 675 ppm

Antiflu; Antiviral; FLavor *FEMA 1-15*; Perfumery; Pesticide

NONAN-1-AL Plant:

No activity reported.

NONAN-3-OL Plant:

No activity reported.

OCT-1-EN-3-OL Leaf:

No activity reported.

OCTAN-1-AL Leaf:

No activity reported.

OCTAN-1-OL Leaf:

No activity reported.

OCTAN-1-OL-2-METHYL-BUTYRATE Leaf:

No activity reported.

OCTAN-1-OL-FORMATE Leaf:

No activity reported.

OCTAN-3-OL Leaf 4 - 100 ppm

No activity reported.

OCTAN-3-OL-ACETATE Leaf 2 - 25 ppm

No activity reported.

OCTAN-3-ONE Leaf:

No activity reported.

OLEANOLIC-ACID Leaf:

Abortifacient; Antiallergic; Antiarrhythmic *40 mg/kg*; Antiatherosclerotic; Antibacterial *MIC=625-1,250 ug/ml*; Anticarcinomic; Anticariogenic; Anticomplement *IC40-50 0.01 mM/l gpg IC80-90 0.05 mM/l gpg*; Antiedemic *IC36=40 mg/kg ipr rat*; Antifertility; Antigingivitic *MIC=625-1,250 ug/ml*; Antihepatotoxic; AntiHIV *EC50=1.7 ug/ml IC50=21.8 ug/ml*; Antihyperlipidemic; Antiinflammatory *40 mg/kg ipr*; Antiischemic *40 mg/kg*; Antileukemic; Antileukotriene *IC50=17 uM*; Antimalarial *IC50=70-89 ug/ml*; Antinephritic *IC50=19-24 uM*; Antioxidant *IC46=10 uM*; Antiperiodontic *MIC=625-1,250 ug/ml*; Antiperoxidant *IC30=200 ug/ml*; AntiPGE2 *IC50=24 uM*; Antiplaque *MIC=625-1,250 ug/ml*; Antiplasmodial *IC50=70-89 ug/ml*; Antisarcomic;

Antiseptic *MIC*=625-1,250 *ug/ml*; AntiTGF-beta *IC50*=19-24 *uM*; Antitumor; Antitumor (Breast); Antitumor (Colon); Antitumor (Kidney); Antitumor (Lung); Antitumor (Pancreas); Antiulcer >*carbenoxolone*; Antiviral *EC50*=1.7 *ug/ml* *IC50*=21.8 *ug/ml*; Aromatase-Inhibitor; Beta-Blocker; Beta-Glucuronidase-Inhibitor ~100 *mg/kg*; Cancer-Preventive; Cardioprotective 40 *mg/kg*; Cardiotonic; COX-2-Inhibitor *IC50*=295 *uM*; Cyclooxygenase-Inhibitor; Diuretic; Elastase-Inhibitor *IC50*=~15 *uM*; Hepatoprotective; Hypolipemic; Hypotensive; Immunomodulator; Leucocytogenic; NF-kB-Inhibitor; Phagocytotic; Piscicide; Prostaglandin-Synthesis-Inhibitor *igs mus*; Sedative; Uterotonic; Vasopressor

OXALIC-ACID Leaf 38 ppm;

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

P-CYMEN-8-OL Leaf:

No activity reported.

P-CYMENE Leaf:

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-CYMOL Leaf 3 - 75 ppm

No activity reported.

P-MENTH-1(7)-EN-8-OL Leaf:

No activity reported.

P-MENTH-1,8-DIEN-4-OL Leaf:

No activity reported.

P-MENTH-CIS-1(7),8-DIEN-2-OL Leaf:

No activity reported.

P-MENTH-CIS-2-EN-1-OL Leaf:

No activity reported.

P-MENTH-TRANS-1(7),8-DIEN-2-OL Leaf:

No activity reported.

P-MENTH-TRANS-1(7),8-DIEN-2-YL-ACETATE Leaf:

No activity reported.

P-MENTH-TRANS-2,8-DIEN-1-OL Leaf:

No activity reported.

PENT-1-EN-3-OL Leaf:

No activity reported.

PENT-CIS-1-EN-3-OL Leaf:

No activity reported.

PENTAN-1-OL Leaf:

No activity reported.

PERILLALDEHYDE Leaf:

Acaricide; Antibacterial $MIC=500 \rightarrow 1,000 \text{ ug/ml}$; Antimelanomic $IC_{50}=120 \text{ uM/l}$; Antiproliferative; Antiseptic; Candidicide $MIC=500 \text{ ug/ml}$; Fungicide $MIC=250-500 \text{ ug/ml}$; Mutagenic; Nematicide $MLC=1 \text{ mg/ml}$; Sedative; Vibriocide 250 ug/ml

PERILLYL-ALCOHOL Leaf 1 - 25 ppm

Antibacterial; Anticancer (Pancreas) $IC_{50}=290 \text{ uM}$; Antimelanomic $IC_{50}=250 \text{ uM/l}$; Antiproliferant; Antitumor (Breast); Antitumor (Colon); Antitumor (Pancreas); Antitumor (Prostate); Apoptotic; Candidicide; Chemopreventive; Fungicide; Nematicide $MLC=1 \text{ mg/ml}$; Pesticide

PHENETHYL-ALCOHOL Leaf:

Antibacterial; Antiseptic; FLavor; Perfumery; Pesticide; Sedative

PHENLYALANINE Leaf:

No activity reported.

PHENYL-ACETALDEHYDE Leaf:

FLavor *FEMA 0.8-10*; Perfumery

PIN-TRANS-3-EN-2-OL Leaf:

No activity reported.

PINOCAMPHONE Leaf:

Convulsant $>0.05 \text{ mg/kg ipr rat}$; Epileptigenic; Neurotoxic; Pesticide

PINOCARVEOL Leaf:

No activity reported.

PINOCARVONE Leaf:

Perfumery

PIPERITENONE Leaf:

Antiacetylcholinesterase $IC_{50}=110 \text{ ug/ml}$; Perfumery; Toxic $10,000/\text{man}$

PIPERITENONE-OXIDE Plant:

Insecticide; Pesticide

PIPERITONE Leaf 24 - 600 ppm Plant:

Antiasthmatic; FLavor *FEMA 1-2*; Herbicide $IC_{50}=30 \text{ mM}$ $IC_{50}=75 \text{ uM}$; Insectifuge ($> DEET$); Perfumery; Pesticide

PIPERITONE-OXIDE Leaf 35 - 875 ppm

No activity reported.

POMOLIC-ACID Leaf:

AntiHIV $EC_{50}=1.4 \text{ ug/ml}$ $IC_{50}=23.3 \text{ ug/ml}$

PROPAN-1-YL-2-METHYL-BUTYRATE Leaf:

No activity reported.

PROPIONALDEHYDE Leaf:

FLavor *FEMA 5-12*; Perfumery

PSI-LIMONENE Leaf:

No activity reported.

PULEGONE Leaf 1 - 475 ppm

ACHe-Inhibitor; Antiacetylcholinesterase $IC_{50}=0.9\text{ mM}$ $IC_{50}=136\text{ ug/ml}$;
Antialzheimeran?; Antibacterial; Anticholinesterase; Antihistaminic; Antipyretic;
Avifuge; Cancer-Preventive; Candidicide; Cerebrotoxic *orl man*; Encephalopathic 80 mg/kg orl rat ; FLavor *FEMA 5-30*; Fungicide; Glutathionalytic; Hallucinogenic;
Hepatotoxic; Herbicide $IC_{50}=1.5\text{ uM}$; Insecticide; Insectifuge; Nephrotoxic;
Neurotoxic; Perfumery; Pesticide; Pulifuge; Pulmonotoxic; Sedative

ROSMARINIC-ACID Leaf 6,300 ppm; Plant 43,000 ppm; Shoot 5,900 ppm;

ABeta-Inhibitor; Adenylate-Cyclase-Inhibitor; Aldose-Reductase-Inhibitor;
Antiaggregant; Antiallergic; Antialzheimeran; Antianaphylactic $1-100\text{ mg/kg orl}$
 $ID_{50}=1\text{ mg/kg ivn rat}$ $ID_{50}=10\text{ mg/kg ims rat}$; Antiatherosclerotic $IC_{50}=0.74\text{ uM}$;
Antibacterial; Anticoagulant; Anticomplementary $1/2\text{ aspirin }20\text{ mg/kg ivn}$;
Antidepressant; Antiedemic $0.316-3.16\text{ mg/kg ims}$; Antigonadotropic; Antihemolytic
 $IC_{70}=5-10\text{ um/l}$; Antihepatotoxic; Antiherpetic 50 ug/ml $EC_{50}=20\text{ ug/ml}$; AntiHIV
 $EC_{50}=40\text{ ug/ml}$; Antihyperthyroid; Antiinflammatory $IC_{50}=1,000\text{ uM}$; Antiintegrase
 10 ug/ml ; Antileukotriene; Antilipoperoxidant; Antimutagenic; Antinephritic;
Antioxidant 10 uM $EC_{50}=2.7\text{ ug/ml}$; Antioxidant (LDL) $IC_{50}=0.74\text{ uM}$; Antiplaque;
Antiproliferant; Antiprostaglandin 20 mg/kg ivn ; Antiproteolytic $IC_{50}=0.9\text{ mol l}$;
Antipulmonotic; Antiradicular; Antishock; Antithyreotropic; Antithyroid; Antiuremic;
Antiviral $EC_{50}=40\text{ ug/ml}$; Anxiolytic; Apoptotic; Calcium-Antagonist $IC_{50}=1.2\text{ uM}$
rbt; Cancer-Preventive; COX-1-Inhibitor $IC_{50}=1,000\text{ uM}$; COX-2-Inhibitor
 $IC_{50}>58=1,000\text{ uM}$; Cytotoxic $TC_{50}=100-150\text{ ug/ml}$; Deiodinase-Inhibitor;
Immunomodulator; Immunostimulant; Lipoxygenase-Inhibitor; Neuroprotective;
Pesticide; Radioprotective

ROTUNDIFOLINE Plant:

No activity reported.

SABINENE Leaf:

Antibacterial; Antihelicobacter; Antiseptic; Antiulcer; Perfumery

SABINENE-HYDRATE Leaf 4 - 300 ppm

No activity reported.

SACCHAROPINE Shoot 1.6 ppm;

No activity reported.

SALICYLIC-ACID-METHYL-ESTER Leaf:

No activity reported.

TERPINEN-4-OL Leaf:

Allelopathic; Antiacetylcholinesterase $IC_{21-24}=1.2\text{ mM}$; 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 Leaf:

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

THYMOL Leaf:

Acaricide; Allergenic; Analgesic; Ancylostomacide; Anesthetic; Ankylostomacide;
Anthelmintic; Antiacne; Antiaggregant *IC50=0.75*; Antialzheimeran?; Antiarthritic;
Antiatherosclerotic *IC50=4 uM*; Antibacterial *MIC=50-400 ug/ml*; Antibronchitic;
Anticariogenic *MIC=200-400 ug/ml*; Anticholinesterase; Antihalitotic; Antiherpetic;
Antiinflammatory (=indomethacin); Antileptic; Antimelanomic *IC50=120 uM/l*;
Antineuritic; Antioxidant *100 ppm*; Antioxidant (LDL) *IC50=4 uM*; Antiperiodontic
MIC=50-200 ug/ml; Antiplaque *MIC=39-625 ug/ml*; Antiradicular *EC=60*;
Antirheumatic; Antisalmonella; Antiseptic *20 x phenol*; Antispasmodic;
Antistaphylococcic; Antistreptococcic *MIC=200-400 ug/ml*; Antitrichinosic *5%*;
Antitussive; Ataxigenic; Candidicide *100 ug/ml (>Nystatin)*; Carminative;
Counterirritant; Culicide *LC50=36-49 mg/l*; Cyclooxygenase-Inhibitor
(=indomethacin); Dentifrice; Deodorant; Dermatitigenic; Enterorelaxant; Enterotoxic;
Expectorant; FLavor *FEMA 2-100*; Fungicide; Gastroirritant; Gram(+)icide *MIC=200-*
400 ug/ml; Gram(-)icide *MIC=50-200 ug/ml*; Insecticide *0.22 uM/fly LC50=36-49 mg/l*;
Insectifuge; Irritant; Larvicide *10 ppm 58 ppm LC50=36-49 mg/l*; Molluscicide;
Myorelaxant; Nematicide *MLC=0.1 mg/ml*; Perfumery; Pesticide; Sedative; Sprout-
Inhibitor; Tracheorelaxant; Trichomonicide *LD100=25 ug/ml*; Urinary-Antiseptic;
Varroacide; Vermicide

TIGLALDEHYDE Leaf:

No activity reported.

TOLUENE Leaf:

Encephalopathic

TRANS-BETA-COPAENE Leaf:

No activity reported.

TRANS-BETA-OCIMENE Leaf:

No activity reported.

TRANS-CARVEOL Leaf 2 - 50 ppm

Antiasthmatic

TRANS-CARVYL-ACETATE Leaf 3 - 75 ppm

No activity reported.

TRANS-CARVYL-FORMATE Leaf:

No activity reported.

TRANS-JASMONE Leaf:

No activity reported.

TRANS-VERBENOL Leaf:

No activity reported.

URSOLIC-ACID Leaf:

Analgesic; Antialzheimeran; Antiarrhythmic; Antiarthritic; Antibacterial; Anticancer; Anticancer (Colon); Anticarcinomic; Anticariogenic; Anticholestatic 28-100 mg/kg *orl*; Anticomplement *IC100 0.1 mM/l gpg IC80-90 0.05 mM/l gpg*; Antidiabetic; AntiEBV; Antiedemic; Antiescherichic; Antifibrosarcomic *IC80=10 uM*; Antihepatotoxic 5-20 mg/kg *ipr*; Antihistaminic; AntiHIV 6.7 uM *EC50=2.0 ug/ml IC50=6.5 ug/ml IC85=18 ug/ml*; Antihyperlipidemic; Antiinflammatory 1/3 *indomethacin IC24=500 mg/kg*; Antileishmanic *ED50=20 uM*; Antileukemic *IC50=2.5-17.8 ug/ml*; Antilymphomic; Antimalarial *IC50=28-37 ug/ml*; Antimetastatic *IC80=10 uM*; Antimutagenic *IC57-80=80 mg/kg*; Antinephritic *IC50=6-7.5 uM*; Antiobesity?; Antioxidant *IC50=10 uM*; Antiperoxidant *IC35=200 ug/ml*; Antiplasmodial *IC50=28-37 ug/ml*; Antiproliferative *IC50=15-20 uM*; Antistaphylococcic; AntiTGF-beta *IC50=6-7.5 uM*; Antithromboxane *IC50=50 uM*; Antitrypanosomic; Antitumor; Antitumor (brain); Antitumor (Breast) 0.5% *diet IC50=15-20 uM*; Antitumor (Cervix); Antitumor (Colon); Antitumor (Lung); Antitumor (Ovary); Antitumor (Stomach); Antitumor-Promoter; Antiulcer; Antiviral *IC85=18 ug/ml*; Aromatase-Inhibitor; Beta-Blocker; Beta-Glucuronidase-Inhibitor ~100 mg/kg; Cancer-Preventive; Candidicide; Cardioprotective; Cardiotonic; Choleric 5-20 mg/kg *orl*; CNS-Depressant; COX-2-Inhibitor *IC50=130 uM*; Cyclooxygenase-Inhibitor; Cytotoxic 50 ppm 7.2 uM *ED50=3.75 ug/ml*; Diuretic; Elastase-Inhibitor *IC50=~15 uM*; Hepatoprotective 1-100 ug/ml 10 mg/kg; Hypoglycemic; Hypotensive; Immunomodulator; Leucocytogenic; Lipoxigenase-Inhibitor *IC50=0.18 mM*; MMP-9-Inhibitor *IC80=10 uM*; Ornithine-Decarboxylase-Inhibitor; Pesticide; Piscicide; Potassium-Sparing 3 mg/rat; Protease-Inhibitor *IC85=18 ug/ml*; Protisticide; Quinone-Reductase-Inducer 5 ug/ml; Sodium-Sparing 3 mg/rat; TOPO-2-Inhibitor; Trypanocide; Vasopressor

VALERIC-ACID Plant:

Antihysterical; Antiinsomniac 1.2-2.4; Antispasmodic; FLavor *FEMA 1-8*; Hypotensive; Myorelaxant; Perfumery; Sedative; Tranquilizer

VANILLIN Leaf:

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; Bacteristat 10-40 mmol/l; Cancer-Preventive; Candidicide 8-20 mM; Choleric; FLavor *FEMA 50-20,000*; Fungicide; Immunosuppressant; Insectifuge?; Irritant; Perfumery; Pesticide

VERBENONE Leaf:

Allelochemic; Coleopterifuge; Insectifuge; Perfumery; Pesticide

VIRIDIFLOROL Leaf:

Antiacetylcholinesterase *IC50=25 ug/ml*