

Dr. Duke's Phytochemical and Ethnobotanical Databases



Chemicals and their Biological Activities in: *Prunus dulcis* (MILLER) D. A. WEBB (Rosaceae) -- Almond

Chemicals

ALDOBIOURONIC-ACID *Plant:*

No activity reported.

ALPHA-LINOLENIC-ACID *Seed 3,740 - 3,912 ppm*

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

AMYGDALIN *Seed 10,000 - 8,000 ppm*

Antiinflammatory; Antispasmodic; Antitussive; Bitter; Cancer-Preventive; Cyanogenic;
Expectorant; Toxic

ANTIMONY *Seed 0.1 ppm;*

No activity reported.

BENZALDEHYDE *Seed 8,200 ppm;*

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 mg/ml*; Pesticide; Sedative; Termiticide *LD100=5 mg/g*;
Tyrosinase-Inhibitor *ID50=0.82 mM ID50=820 uM ID50=830 uM ID50=87 ug/ml*

CAFFEIC-ACID *Plant:*

Aldose-Reductase-Inhibitor *4 ug/ml (weak activity)*; Allergenic; Analgesic;
Antiadenoviral; Antiaggregant; Antiaging; Antiatherogenic; Antibacterial; Anticancer;
Anticarcinogenic; Antidepressant; Antiedemic; Antielastase *IC50=86 ug/ml (475 uM)*
IC50=93 um/l; Antiescherichic; Antiflu; Antigonadotropic; Antihemolytic *25 uM*;
Antihepatoadenomic *200 ppm diet orl mus*; Antihepatotoxic; Antiherpetic *50 ug/ml*
EC50=>50 ug/ml; Antihistaminic; AntiHIV *EC50=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 IC57=30*
ppm; Antiperoxidant *IC35=200 ug/ml IC50=44 uM IC85=100 ug/ml*; Antiproliferant;
Antiprostaglandin; Antiradicular *1/3 quercetin 10 uM 30 mM IC50=32-35 uM*;
Antiseptic; Antispasmodic *EC50=3.4-15 uM*; Antistaphylococcic; Antistomatitic;

Antisunburn; Antithiamin; Antithyroid; Antitumor 200 ppm diet orl mus; Antitumor (Skin); Antitumor-Promoter $IC_{42}=10\ \mu M$; Antiulcerogenic; Antivaccinia; Antiviral $IC_{50}=62.5\ \mu g/ml$; Anxiolytic; Calcium-Antagonist $IC_{50}=1.2\ \mu M\ rbt$; 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; Lipoygenase-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; Prostaglandigenic; 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 $IC_{50}=39.21\ \mu M$

CESIUM Seed 0.1 ppm;
No activity reported.

CRESOL Flower:
Antiseptic; Hemolytic 2,500 ppm; Irritant; Parasiticide; Pesticide

CYANIDIN Leaf:
Allelochemic $IC_{90}=1\ mM$; Antioxidant 4.4 x Vit. E $ID_{50}=3.5-22\ \mu M$; Metal-Chelator (Copper); Pesticide; Pigment; Prooxidant

D-GALACTOSE Gum:
No activity reported.

D-GLUCURONIC-ACID Gum:
No activity reported.

D-XYLOSE Gum:
No activity reported.

DAUCOSTEROL Seed:
Aldose-Reductase-Inhibitor 0.1 mM/l rat (weak activity, 31.9% inhibition);
Antileukemic; Antispasmodic 20 mg/kg; Antitumor; Hypoglycemic

EUGENOL Flower:
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; Antiherpetic $IC_{50}=16.2-25.6\ \mu g/ml$; Antiinflammatory (11 μM) $IC_{\sim 97}=1,000\ \mu M$; Antikeratotic $IC_{50}=16.2-25.6\ \mu g/ml$; Antimitotic; Antimutagenic; Antinitrosating; Antioxidant 10 $\mu M\ IC_{65}=30\ ppm$; Antiprostaglandin 11 $\mu M\ IC_{50}=9.2\ mM$; 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; Choloretic; CNS-Depressant; COX-1-Inhibitor $IC_{97}=1,000\ \mu M$; COX-2-Inhibitor $IC_{50}=129\ \mu M\ IC_{>97}=1,000\ \mu M$; Cytochrome-P450-Inhibitor; Cytotoxic 25 $\mu g/ml$; 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

EUROPIUM Seed 0.1 ppm;

No activity reported.

FERULIC-ACID Plant:

Allelopathic; Analgesic; Antiaggregant; Antiallergic; Antiarrhythmic; Antibacterial; Anticancer (Colon); Anticancer (Forestomach); Anticancer (Liver); Anticancer (Skin); Anticarcinogenic; Antidysmenorrhic; Antiestrogenic; Antihepatotoxic; Antiherpetic; Antiinflammatory; Antileukemic *IC50*=25-56 ug/ml; Antimitotic; Antimutagenic; Antineoplastic (*Stomach*); Antinitrosaminic; Antioxidant 1/2 BHA 1/3 quercetin 3,000 uM *EC50*=9-15 ug/ml *IC51*=200 ppm; Antiradicular *EC50*=9-15 ug/ml *IC50*=116-124 uM; Antiserotonin; Antispasmodic; Antithrombic; Antitumor; Antitumor (Colon); Antitumor (Forestomach); Antitumor (Liver); Antitumor (Skin); Antitumor-Promoter *IC46*=10 uM; Antiviral; Arteriodilator; Cancer-Preventive; Candidicide; Cardiac; Cholagogue; Choloretic; Fungicide; Hepatoprotective; Hepatotropic; Herbicide; Hydrocholoretic; Hypolipidemic; Immunostimulant; Insectifuge; Metal-Chelator; Ornithine-Decarboxylase-Inhibitor; Pesticide; Phagocytotic; Preservative; Prostaglandigenic; Prostaglandin-Synthesis-Inhibitor 0.58-3.2 mM; Sunscreen; Uterosedative 30-100 mg/kg *ivn rat*

GAMMA-TOCOPHEROL Seed 5 ppm;

Antiatherosclerotic; Anticancer; AntiCRP; Antiinflammatory; Antioxidant 10-15 ug/g *IC43*=10 uM; Antiprostaglandin; Antitumor; Cardioprotective; Cyclooxygenase-Inhibitor; Hypocholesterolemic; Natriuretic; NO-Inhibitor; PKC-Inhibitor

GERANIOL Flower:

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

HAFNIUM Seed 0.04 ppm;

No activity reported.

HCN Seed 40,000 - 70,000 ppm

Antiasthmatic; Antidote *Ihl* (=Amyl Nitrite); Antitussive; Bronchosedative; Insecticide; Pesticide; Respirastimulant; Rodenticide; Vasomotor-Stimulant

I-DECANOL Flower:

No activity reported.

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; Protisticide; 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

L-ARABINOSE Gum:

No activity reported.

LANTHANUM Seed 0.03 ppm;

No activity reported.

LUTETIUM Seed 0.01 ppm;

No activity reported.

MUCILAGE Seed 20,000 - 30,000 ppm

Cancer-Preventive; Demulcent; Hypocholesterolemic

OXALIC-ACID Seed 4,073 ppm;

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

P-COUMARIC-ACID Plant:

Aldose-Reductase-Inhibitor 4 $\mu g/ml$ (weak activity); Allelopathic; Antibacterial; Anticlastogen; Antifertility; Antihepatotoxic; Antileukemic IC_{50} =25-56 $\mu g/ml$; Antinitrosaminic; Antioxidant 1/3 BHA IC_{24} =30 ppm; Antiperoxidant IC_{50} =>100 μM ; Antiseptic; Antispasmodic; Antitumor; Cancer-Preventive; Chemopreventive; Choleric; Cytotoxic; Diaphoretic?; Fungicide; Lipoxygenase-Inhibitor IC_{11} =5 mM; Pesticide; Prostaglandigenic; Prostaglandin-Synthesis-Inhibitor; Tyrosinase-Inhibitor ID_{50} =3,650 μM

PENTOSANS Seed:

No activity reported.

PHENYL-ETHYL-ALCOHOL Flower:

No activity reported.

PHENYLACETIC-ACID Flower:

FLavor *FEMA 0.1-30*; Perfumery

PHYTIC-ACID Seed 3,624 ppm;

Antiaggregant; Anticancer; Antioxidant; Antitumor; Cancer-Preventive; Fungicide; Hypocalcemic *Sodium phytate*; Hypocholesterolemic; Hypolipidemic

PHYTOSTEROLS Seed 143 - 149 ppm

Antiprostatotic; Hypocholesterolemic

PRUNASIN Seed:

Aldose-Reductase-Inhibitor *0.1 mM/l rat*; Cyanogenic

QUERCETIN Plant:

11B-HSD-Inhibitor; 5-Lipoxygenase-Inhibitor *IC50 (uM)=4*; Aldehyde-Oxidase-Inhibitor *IC70-96=10 uM*; Aldose-Reductase-Inhibitor *100 uM 4 ug/ml IC50=0.344 uM IC50=0.84 ug/ml cow*; Allelochemic *IC82=1 mM*; Allergenic; Analgesic; Antiaflatoxin *IC50=25 uM IC50=7.5 ppm*; Antiaggregant *30 uM IC50=55 uM*; Antiaging; Antiallergic *IC50=14 uM*; Antialzheimeran; Antianaphylactic; Antiangiogenic; Antiarthritic; Antiasthmatic; Antiatherosclerotic; Antibacterial; Anticarcinomic (Breast) *IC50=1.5 uM*; Anticariogenic *ID50=120 ug/ml*; Anticataract; Anticolitic *400 mg/man/3x/day*; Anticomplementary; AntiCrohn's; Anticystitic *1,000 mg/day/4 weeks*; Antidepressant; Antidermatitic; Antidiabetic; Antielastase *IC50=0.8 ug/ml*; Antiencephalitic; Antiescherichic; Antiestrogenic; Antifeedant *IC52=<1,000 ppm diet*; Antifibrosarcomic; Antiflu; Antigastric; Antigonadotropic; AntiGTF *ID50=120 ug/ml*; Antihepatotoxic; Antiherpetic *48-150 ug/ml*; Antihistaminic *IC50=<10 uM*; AntiHIV; Antihydrophobic; Antihypertensive; Antiinflammatory *20-150 mg/kg*; Antileishmanic *IC50=64*; Antileukemic *5.5-60 uM IC50=10 uM IC50=>10 ug/ml*; Antileukotriene; Antilipoperoxidant *IC67=50*; Antimalarial *IC50=1-6.4 ug/ml*; Antimelanomic; Antimetastatic; Antimutagenic *ID50=0.62 ug/ml ID50=2-5 nM*; Antimyocarditic; Antinitrosaminic; Antinociceptive; Antioxidant *4.7 x Vit. E ED50=2.3 uM IC47=10 uM IC96=300 ppm*; Antipancreatic; Antiperiodontal; Antiperistaltic; Antipermeability; Antiperoxidant; Antipharyngitic; Antiplaque; Antiplasmodial *IC50=13-64*; AntiPMS *500 mg/2x/day/wmn*; Antipodriac; Antipolio; Antiproliferant *10 nM*; Antiprostanoid; Antiprostatitic; Antipsoriac; Antiradicular *IC50=4.6 uM*; Antispasmodic; Antistreptococcic *ID50=120 ug/ml*; Antithiamin; Antithrombic; Antitrypanosomic *IC50=13*; Antitumor *10 uM*; Antitumor (Bladder); Antitumor (Breast); Antitumor (Colon); Antitumor (Lung); Antitumor (Ovary); Antitumor (Skin) *20 uM*; Antitumor-Promoter; Antiulcer; Antiviral *48-150 ug/ml IC50=10 uM*; Apoptotic *20-60 uM*; ATPase-Inhibitor; Bacteristat *10 mg/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 uM*; Cyclooxygenase-Inhibitor; Cytochrome-P450-1A2-Inhibitor; Cytotoxic *ED50=70 ug/ml IC82=100 ug/ml*; Deiodinase-Inhibitor; Diaphoretic?; Differentiator *5.5 uM*; Estrogenic *10% genistein*; Fungicide; Glucosyl-Transferase-Inhibitor *ID50=120 ug/ml*; Hemostat; Hepatomagenic *5,000 ppm (diet) rat*; Hepatoprotective; HIV-RT-Inhibitor *IC50=<1 ug/ml*; Hypoglycemic *100 mg/kg orl rat*; iNOS-Inhibitor *IC50=20 uM*; Inotropic; Insulinogenic; Juvabional; Larvistat *8,000 ppm diet*; Lipoxygenase-Inhibitor *IC11=1.25 mM IC50=0.1-5 uM*; MAO-A-Inhibitor; Mast-Cell-Stabilizer; Metal-Chelator (Copper); Metalloproteinase-Inhibitor *IC50=>42 uM*; MMP-9-Inhibitor *20 uM*; Mutagenic; NADH-Oxidase-Inhibitor; NEP-Inhibitor *IC50=>42 uM*; Neuroprotective *5-25 uM*; NF-kB-Inhibitor; NO-Inhibitor *IC50=20 uM*

IC>50=125 *uM*; NO-Synthase-Inhibitor 5-50 *uM*; Ornithine-Decarboxylase-Inhibitor <10 *uM*; P450-Inducer 5 *uM*; P450-Inhibitor 50-100 *uM*; Pesticide; PGE2-Inhibitor; Phospholipase-Inhibitor; Plasmodicide; Proliferant; Prostaglandin-Synthesis-Inhibitor 40 *ug/ml*; Protein-Kinase-C-Inhibitor; PTK-Inhibitor 0.4-24 *uM*; Quinone-Reductase-Inducer 13 *uM* 6 *uM*; Teratologic; TNF-alpha-Inhibitor *IC*50=3.11 *uM*; Topoisomerase-I-Inhibitor *IC*50=12.8 *ug/ml* *IC*50=42 *uM*; Topoisomerase-II-Inhibitor *IC*50=1-6.9 *ug/ml* *IC*50=23-40 *uM*; Tumorigenic 0.1% diet orl rat/yr; Tyrosinase-Inhibitor *ID*50=70 *uM*; Tyrosine-Kinase-Inhibitor; Vasodilator; VEGF-Inhibitor; Xanthine-Oxidase-Inhibitor 3.1 *uM* *IC*50=10.6 *ug/ml* *IC*50=>0.4 *ug/ml*

QUERCITRIN Leaf:

ACE-Inhibitor *IC*50=0.67 *mM*/; Aldose-Reductase-Inhibitor 0.1-100 *uM* 0.5-4 *ug/ml* *IC*50=2 *uM* *IC*50=64 *uM* rat *IC*55=0.1 *uM* *IC*55=0.15 *uM*; Antiarrhythmic; Antibacterial; Anticataract; Antiedemic; Antifeedant *IC*52=<1,000 *ppm* diet; Antiflu; Antihemorrhagic; Antihepatotoxic; Antiherpetic; Antiinflammatory; Antimutagenic *ID*50=2-5 *nM*; Antioxidant *IC*50=120 *uM*; Antipurpuric; Antispasmodic; Antistaphylococcic 0.412%; Antithrombogenic; Antitumor; Antiulcer; Antiviral; Cancer-Preventive; Cardiogenic; Choleric; CNS-Depressant; Cyclooxygenase-Activator 200 *uM*; Detoxicant; Diuretic; Dye; Hemostat; Hepatogenic; Hypoglycemic; Hypotensive; Insectiphile; MAO-A-Inhibitor; MAO-Inhibitor; Paralytic; Pesticide; Vasopressor

SAMARIUM Seed 0.1 ppm;

No activity reported.

SCANDIUM Seed 0.003 ppm;

No activity reported.

SUGAR Seed 50,000 - 100,000 ppm

No activity reported.

TANTALUM Seed 0.03 ppm;

No activity reported.

THORIUM Seed 0.2 ppm;

No activity reported.

TUNGSTEN Seed 0.1 ppm;

No activity reported.

VIT-B-6 Seed 1 ppm;

No activity reported.

YTTERBIUM Seed 0.1 ppm;

No activity reported.