

Dr. Duke's Phytochemical and Ethnobotanical Database**Biological Activities Found in *Spinacia oleracea***

Activity	Chemical Count
11B-HSD-Inhibitor	2
5-Alpha-Reductase-Inhibitor	6
5-HT-Inhibitor	1
5-Lipoxygenase-Inhibitor	2
Acaricide	1
Acarifuge	1
ACE-Inhibitor	4
Acidulant	1
Acnegenic	1
Adjuvant	1
Aldehyde-Oxidase-Inhibitor	2
Aldose-Reductase-Inhibitor	10
Allelochemic	4
Allelopathic	2
Allergenic	10
Alpha-Amylase-Inhibitor	1
Alpha-Glucosidase-Inhibitor	1
Alpha-Reductase-Inhibitor	1

Activity	Chemical Count
Amphiglycemic?	1
Analgesic	10
Androgenic	1
Androgenic?	1
Anemiagenic	1
Angiotensin-Receptor-Blocker	3
Anorexic	2
Antiacid	1
Antiacne	6
Antiacrodermatitic	1
Antiacrodynic	1
AntiADD	1
Antiadenoviral	1
Antiadrenalinic	1
Antiaflatoxin	2
AntiAGE	2
Antiaggregant	11
Antiaging	6
Antiakathisic	1
Antialcoholic	4

Activity	Chemical Count
Antialdosteronic	1
Antialkali?	1
Antialkalotic	1
Antiallergic	8
Antialopecic	4
Antialzheimeran	8
Antiamblyopic	2
Antianaphylactic	2
Antiandrogenic	3
Antianemic	5
Antianginal	3
Antiangiogenic	3
Antianorectic	2
Antianorexic	1
Antianxiety	3
Antiaphthic	1
Antiapoplectic	1
Antiarabiflavinotic	1
Antiarrhythmic	6
Antiarteriosclerotic	3

Activity	Chemical Count
Antiarthritic	13
Antiasthmatic	7
Antiataxic	1
Antiatherogenic	2
Antiatherosclerotic	12
Antibackache	1
Antibacterial	16
Antiberiberi	1
AntiBPH	1
Anticalculic	1
Anticancer	9
Anticancer (Breast)	2
Anticancer (Colon)	3
Anticancer (Esophagus)?	1
Anticancer (Forestomach)	2
Anticancer (Liver)	4
Anticancer (Lung)	1
Anticancer (Skin)	3
Anticanker	3
Anticapillary-Fragility	2

Activity	Chemical Count
Anticarcinogenic	3
Anticarcinomic	1
Anticarcinomic (Breast)	1
Anticardiospasmic	1
Anticariogenic	1
Anticariogenic?	1
Anticarpal-Tunnel	1
Anticataract	11
Anticephalagic	3
Anticervicaldysplasic	5
AntiCFS	3
Anticheilitic	4
Antichilblain	2
Anticirrhotic	2
Anticirrhotic?	1
Anticlastogen	3
Anticlaudificant?	1
Anticlimacteric	4
Anticoagulant	1
Anticoeliac	1

Activity	Chemical Count
Anticold	2
Anticolitic	3
Anticomplementary	1
Anticonvulsant	4
Anticorneotic	1
Anticoronary	6
AntiCrohn's	3
AntiCTS	1
AntiCVI	1
Anticystitic	1
Anticytotoxic	1
Antidandruff	3
Antidecubitic	4
Antideliriant	1
Antidementia	9
Antidepressant	11
Antidepressant?	1
Antidermatitic	5
Antidiabetic	13
Antidiabetic?	1

Activity	Chemical Count
Antidiscotic	1
Antidiuretic	1
Antidote (Acetaminophen)	1
Antidote (Aluminum)	2
Antidote (Cadmium)	2
Antidote (Heavy Metals)	1
Antidote (Hypoglycin-A)	1
Antidote (Lead)	3
Antidote (Mercury)	1
Antidote (Paracetamol)	1
Antidote (Paraquat)	1
Antidysgeuzic	1
Antidyskinetic	3
Antidysmenorrheic	2
Antidyspeptic	1
Antidysphagic	1
AntiEBV	1
Antieczemic	6
Antiedemic	4
Antielastase	3

Activity	Chemical Count
Antiencephalitic	2
Antiencephalopathic	7
Antiencephalopathic?	1
Antiendometriotic	2
Antienterotic	1
Antiepileptic	5
Antierythemic	1
Antiescherichic	2
Antiestrogenic	2
Antifatigue	7
Antifeedant	4
Antifertility	2
Antifibrinolytic	2
Antifibromyalgic	2
Antifibrosarcomic	1
Antifibrotic	3
Antiflu	4
Antifuruncular	1
Antigallstone	1
Antigastric	1

Activity	Chemical Count
Antigastritic	3
Antigastrotic	1
Antigenotoxic	2
Antigingivitic	4
Antiglaucomic	3
Antiglossitic	3
Antiglycosuric	1
Antigoiter	1
Antigonadotrophic	1
Antigonadotropic	3
Antigout	2
Antigranular	1
Antigrey	1
AntiGTF	1
Antihalitotic	1
Antihangover	4
Antiheartburn	1
Antihematuric	1
Antihemolytic	3
Antihemorrhagic	3

Activity	Chemical Count
Antihemorrhoidal	1
Antihepatitic	3
Antihepatoadenomic	1
Antihepatomic	1
Antihepatotic	1
Antihepatotoxic	10
Antiherpetic	12
Antiherpetic?	1
Antihistaminic	8
AntiHIV	5
Antihomocystinuric	1
Antihydrophobic	1
Antihyperactivity	1
Antihyperammonemic	1
Antihypercholesterolemic	3
Antihyperkeratotic	1
Antihyperkinetic	2
Antihypertensive	10
Antihyperthyroid	2
Antihypoglycemic	1

Activity	Chemical Count
Antiichthyotic	1
Antiilus?	1
Antiileus	1
Antiimplantation	1
Antiimpotence	2
Antiinfarctal	1
Antiinfective	1
Antiinfertility	5
Antiinflammatory	19
Antiinsomniac	4
Antiinsomniac?	1
Antiinsomnic	1
Antiischemic	3
Antikeratitic	1
Antikeshan	1
AntiLegionella	3
Antileishmanic	2
Antileptic	2
Antileukemic	8
Antileukonychic	1

Activity	Chemical Count
Antileukoplakic	1
Antileukotriene	4
Antileukotriene-D4	3
Antilipedemic	1
Antilipoperoxidant	2
Antilithic	4
Antilupus	1
AntiLyme	5
Antilymphocytic	1
Antilymphomic	1
Antimaculitic	6
Antimalarial	2
Antimanic	3
Antimastalgic	1
Antimastitic	1
Antimeasles	1
Antimelanogenic	3
Antimelanomic	3
AntiMeniere's	2
Antimenopausal	5

Activity	Chemical Count
Antimenorrhagic	4
Antimetaplastic	1
Antimetastatic	5
Antimicrobial	1
Antimigraine	6
Antimitotic	1
Antimitral-valve-prolapse	1
Antimorphinic	1
Antimorphinistic	1
AntiMS	2
Antimutagenic	15
Antimyalgic	1
Antimyelotoxic	2
Antimyocarditic	2
Antineoplastic	1
Antinephritic	2
Antinephrolytic	1
Antineuralgic	2
Antineuramidase	1
Antineurasthenic	1

Activity	Chemical Count
Antineuritic	1
Antineuropathic	5
Antineurotic	1
AntiNF-kB	1
Antinitrosaminic	5
Antinitrosic	1
Antinociceptive	4
Antinyctalopic	2
Antiobesity	5
Antionychyotic	1
Antiophidic	2
Antiorchitic	1
Antiosteoarthritic	4
Antiosteoporotic	10
Antiotitic	1
Antiototic	1
Antioxidant	30
Antioxidant Synergist	3
Antioxidant?	2
Antiozenic	1

Activity	Chemical Count
Antipancreatic	1
Antipapillomic	1
Antiparkinsonian	8
Antiparotitic	1
Antipellagic	3
Antiperiodontal	2
Antiperiodontic	1
Antiperiodontitic	4
Antiperistaltic	1
Antipermeability	1
Antiperoxidant	7
Antipharyngitic	1
Antiphenylketonuric	2
Antiphotophobic	2
Antipityriasic	1
Antiplatelet	6
Antiplatelet?	1
Antiplasmodial	1
Antiplatelet	1
AntiPMS	5

Activity	Chemical Count
Antipneumonic	1
Antipodriac	2
Antipolio	2
Antipoliomyelitic	2
Antipolyp	1
Antiporphyrin	1
Antiprolactin	1
Antiproliferant	7
Antiprostaglandin	2
Antiprostanoid	1
Antiprostatic	6
Antiprostatotic	1
Antiprotozoal	1
Antipruritic	1
Antipsoriac	3
Antipsychotic	3
Antipurpuric	2
Antipyretic	3
Antiradicular	13
AntiRaynaud's	3

Activity	Chemical Count
Antiretardation	1
Antiretinitic Optometry	1
Antiretinopathic	1
Antiretinotic	2
Antirheumatic	7
Antirheumatitic?	1
Antirhinitic	2
Antisclerodermic	1
Antiscoliotic	1
Antiscorbutic	1
Antiscotomic	1
Antiseborrheic	4
Antiseptic	13
Antiserotonin	2
Antishingles	1
Antisickling	2
Antisilicotic	1
Antisinusitic	1
Antispare-Tire	1
Antispasmodic	13

Activity	Chemical Count
Antispasmophilic	1
AntiSpina-Bifida	2
Antisprue	1
Antistaphylococcic	3
Antistomatitic	2
Antistreptococcic	1
Antistress	4
Antistroke	3
Antisunburn	3
Antisyndrome-X	6
Antitachycardic	1
Antithiamin	2
Antithrombic	2
Antithrombogenic	2
Antithyroid	3
Antithyrotoxic	1
Antitic	1
Antitinnitic	1
AntiTourette's	1
Antitriglyceride	2

Activity	Chemical Count
Antitrypanosomic	2
Antitubercular	2
Antitumor	15
Antitumor (Bladder)	2
Antitumor (brain)	1
Antitumor (Breast)	5
Antitumor (CNS)	1
Antitumor (Colon)	6
Antitumor (Esophagus)?	1
Antitumor (Forestomach)	2
Antitumor (Gastric)	1
Antitumor (Liver)	2
Antitumor (Lung)	6
Antitumor (Mouth)	1
Antitumor (Ovary)	2
Antitumor (Prostate)	3
Antitumor (Skin)	5
Antitumor (Stomach)	2
Antitumor-Promoter	7
Antitussive	2

Activity	Chemical Count
Antiulcer	14
Antiulcerogenic	2
Antiuremic	1
Antiuricosuric	1
Antivaccinia	1
Antivaginitic	1
Antivaricose	1
Antivertigo	1
Antiviral	12
Antiviral?	1
Antivittilgic	1
Antiwrinkle	1
Antixerophthalmic	1
Anxiolytic	7
AP-1-Inhibitor	1
Aphrodisiac	1
Apoptotic	6
Aromatase-Inhibitor	1
Arteriodilator	1
Asthma-preventive	1

Activity	Chemical Count
Astringent	1
ATPase-Inhibitor	1
Autotoxic	1
Bacteristat	2
Beta-Adrenergic Receptor Blocker	1
Beta-Blocker	2
Beta-Glucuronidase-Inhibitor	1
Bilirubolytic	1
Bradycardiac	1
Bronchoconstrictor	1
Bronchostimulant	1
Bruchiphobe	1
Calcium-Antagonist	4
Calcium-Channel-Blocker	1
Calmodulin-Antagonist	1
cAMP-Inhibitor	1
cAMP-Phosphodiesterase-Inhibitor	3
Cancer-Preventive	32
Candidicide	4
Capillarfortificant	1

Activity	Chemical Count
Capillarigenic	1
Capillariprotective	2
Carcinogenic	7
Cardiac	1
Cardiodepressant	1
Cardiomyopathogenic	1
Cardioprotective	12
Cardiotonic	1
Cardiotoxic	1
Cardiovascular	1
Catabolic	2
Cerebrostimulant	1
Chemopreventive	6
Cholagogue	4
Choleretic	7
Cholinergic	1
Circulotonic	2
Clastogenic	2
CNS-Active	2
CNS-Depressant	2

Activity	Chemical Count
CNS-Paralytic	1
CNS-Stimulant	1
Co-carcinogenic	1
Cold-preventive	1
Collagen-Sparing	2
Collagenic	2
Colorant	6
Comedogenic	1
Comedolytic	1
COMT-Inhibitor	1
Contraceptive	1
Copper-Antagonist	1
Copper-Chelator	2
Cosmetic	2
COX-1-Inhibitor	1
COX-2-Inhibitor	4
Cyclooxygenase-Activator	2
Cyclooxygenase-Inhibitor	2
Cytochrome-P450-1A2-Inhibitor	1
Cytoprotective	2

Activity	Chemical Count
Cytotoxic	4
Deiodinase-Inhibitor	1
Deodorant	2
Depressant	1
Dermatitigenic	2
Detoxicant	2
Detoxicant (Alcohol)	1
Diaphoretic?	3
Differentiator	1
Disinfectant	1
Diuretic	12
DNA-Active	1
DNA-Protective	1
Dye	2
Emetic	1
Encephalopathic	1
Energizer	1
Ergogenic	1
Erythrocytogenic	1
Essential	8

Activity	Chemical Count
Estrogenic	4
Estrogenic?	1
Expectorant	1
Fatal	1
Fibrinolytic	1
Fistula-Preventive	1
Flatulent	1
FLavor	6
Fungicide	13
Gastroprotective	1
Gastrostimulant	1
Glucosyl-Transferase-Inhibitor	1
Glutathione-Depleting	1
Glutathionigenic	1
Goitrogenic	1
Hematopoietic	2
Heme-Sparing	1
Hemolytic	1
Hemopoietic	1
Hemostat	5

Activity	Chemical Count
Hemostatic	1
Hepatocarcinogenic	1
Hepatomagenic	2
Hepatoprotective	13
Hepatotonic	1
Hepatotoxic	2
Hepatotropic	2
Herbicide	2
Histamine-Inhibitor	2
Histaminic	2
HIV-RT-Inhibitor	2
Hydrocholerectic	1
Hypercholesterolemic	2
Hyperglycemic	1
Hypertensive	2
Hyperthyroid	1
Hyperuricemic	1
Hypnotic	1
Hypoammonemic	1
Hypoarginanemic	1

Activity	Chemical Count
Hypocalcemic	1
Hypocholesterolemic	17
Hypoglycemic	10
Hypolipidemic	3
Hypotensive	17
Hypouricemic	1
ICAM-1-Inhibitor	1
Immunomodulator	10
Immunostimulant	12
Immunosuppressant	1
iNOS-Inhibitor	2
Inotropic	2
Insecticide	1
Insectifuge	7
Insectiphile	2
Insulin-Sparing	1
Insulinase-Inhibitor	2
Insulinogenic	4
Insulinotonic	2
Interferon-Synergist	1

Activity	Chemical Count
Interferonogenic	2
Iodothyronine-Deiodinase-Inhibitor	1
Irritant	6
JNK-Inhibitor	1
Juvabional	4
Keratolytic	1
Larvostat	3
Laxative	5
Laxative?	2
Leptingenic	1
Leukotriene-Inhibitor	2
Lipolytic	1
Lipotropic	2
Lipoxygenase-Inhibitor	7
Lithogenic	2
Litholytic	2
Lubricant	3
Lyase-Inhibitor	1
Lymphocytogenic	1
MAO-A-Inhibitor	2

Activity	Chemical Count
MAO-Inhibitor	2
Mast-Cell-Stabilizer	1
Memorigenic	1
Metal-Chelator	3
Metal-Chelator (Copper)	1
Metalloproteinase-Inhibitor	1
Metastatic	1
Miotic	1
MMP-9-Inhibitor	1
Monoamine-Precursor	3
Mucogenic	2
Mucolytic	1
Mutagenic	3
Mycobactericide	2
Myocontractant	1
Myopic	1
Myoprotective	1
Myorelaxant	2
Myostimulant	1
Myotonic	1

Activity	Chemical Count
NADH-Oxidase-Inhibitor	1
Natriuretic	1
Nematicide	4
Nematostat	1
NEP-Inhibitor	1
Nephrotoxic	3
Neuroexcitant	1
Neuroinhibitor	1
Neuroprotective	3
Neurotoxic	1
Neurotransmitter	2
NF-kB-Inhibitor	3
NO-Genic	2
NO-Inhibitor	2
NO-Synthase-Inhibitor	1
Odontolytic	1
Ornithine-Decarboxylase-Inhibitor	5
Osteogenic	1
Oviposition-Stimulant	2
Oxidant	3

Activity	Chemical Count
P450-Inducer	1
P450-Inhibitor	1
PAF-Inhibitor	2
Paralytic	1
Parasiticide	1
Parasympathomimetic	1
Percutaneostimulant	1
Perfumery	4
Peristaltic	1
Peroxidase-Inhibitor	1
Pesticide	27
PGE2-Inhibitor	1
Phagocytotic	3
Phospholipase-Inhibitor	1
Phytoalexin	1
Pigment	3
Pituitary-Stimulant	1
Plasmodicide	1
Polyamine-Synthesis-Inhibitor	1
Preservative	1

Activity	Chemical Count
Previtamin-A	1
Prolactinogenic	1
Proliferant	1
Prooxidant	4
Propepic	5
Prostaglandigenic	4
Prostaglandin-Sparer	1
Prostaglandin-Synthesis-Inhibitor	4
Protein-Kinase-C-Inhibitor	2
Protisticide	3
PTK-Inhibitor	1
Quinone-Reductase-Inducer	4
Radioprotective	2
Refrigerant	1
Renotoxic	1
Retinoprotectant Optometry	1
Roborant	1
Scabicide	1
Schizophrenigenic	1
Seasoning	1

Activity	Chemical Count
Secretagogue	2
Sedative	3
Serotonergic	2
Sialogogue	2
Soap	2
Spasmogenic	2
Spermigenic	2
Sunscreen	4
Suppository	1
Sweetener	3
Tachycardic	1
Teratogenic	1
Teratologic	2
Testosteronigenic	1
Thymoprotective	1
Thyrotropic	1
Tissue-Thromboplastin-Inhibitor	1
TNF-alpha-Inhibitor	2
Topoisomerase-I-Inhibitor	2
Topoisomerase-II-Inhibitor	3

Activity	Chemical Count
Toxic	1
Tranquilizer	2
Tremorigenic	1
Trichomonicide	1
Tumor-Promoter	1
Tumorigenic	2
Tyrosinase-Inhibitor	4
Tyrosine-Kinase-Inhibitor	1
Ubiquiot	3
Ulcerogenic	1
Uricosuric	5
Urinary-Acidulant	1
Urine-Acidifier	1
Urine-Deodorant	1
Uterorelaxant	1
Uterosedative	1
Uterotrophic	2
Varroacide	1
Vasodilator	13
Vasopressor	2

Activity	Chemical Count
VEGF-Inhibitor	2
Vitamin-A-Activity	1
Vulnerary	6
Xanthine-Oxidase-Inhibitor	5