

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Arctium lappa*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
7	(-)-ARCTIGENIN	Fruit				--
0	(4E,6E)-4,6-TETRADECADIEN-8,10,12-TRIYN-1,3-DIYL-DIACETATE	Plant				--
0	(4E,6E,12E)-4,6,12-TETRADECADIEN-8,10,12-TRIYN-1,3-DIYL-DIAC	Plant				--
0	(4E,6Z)-4,6,TETRADECADIEN-8,10,12-TRIYN-1,3-DIYL-DIACETATE	Plant				--
0	(4E,6Z,12E)-4,6,12-TETRADECADIEN-8,10,12-TRIYN-1,3-DIYL-DIAC	Plant				--
0	1,11-TRIDECADIENE	Plant				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	1,11-TRIDECADIENE-3,5,7,9-TETRAYNE	Plant				--
0	1,11-TRIDECADIENE-3,5,7,9-TETRAYNE	Root		15.0		--
0	1,2-EPOXY-TRIDEC-1-ENE-5,7,9,11-TETRAYNE	Root				Jim Duke's personal files.
0	1,2-EPOXY-TRIDEC-TRANS-3-ENE-5,7,9-TRIYNE	Root				Jim Duke's personal files.
0	1,3,1,1-TRIDECATRIENE	Plant				--
0	1,3,11-TRIDECATRIENE-5,7,9-TRIYNE	Plant		2.0		--
0	1-TRIDECENE-3,5,7,9,11-PENTAYNE	Root		11.0		--
0	2-ALKYL-3-METHOXYPIRAZINES	Root				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	2-METHOXY-3-METHYLPYRAZINE	Root				--
0	2-METHOXY-3-PYRAZINE	Root				--
0	2-METHYL-BUTYRIC-ACID	Root				Jim Duke's personal files.
0	2-METHYL-PROPIONIC-ACID	Root				Jim Duke's personal files.
0	3,5,7,9-TETRAYNE	Plant				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-HEXENOIC-ACID	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	3-OCTENOIC-ACID	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	5'-(1-PROPYNYL)-2,2'-BITHIENYL-5-YL...	Plant				--
0	5,7,9-TRIYNE	Plant				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	9(10)-DEHYDROFUJINONE	Leaf				Jim Duke's personal files.
16	ACETIC-ACID	Plant				--
3	ALANINE	Root	250.0	1250.0	-1.0791749981456504	USDA's Ag Handbook 8 and sequelae)
10	ALPHA-AMYRIN	Plant				Jim Duke's personal files.
10	ALPHA-AMYRIN	Leaf				--
2	ALPHA-AMYRIN-ACETATE	Plant				Jim Duke's personal files.
0	ALPHA-GUAIENE	Root				Jim Duke's personal files.
5	ALUMINUM	Root	54.0	231.0	-0.18853557796129974	--
0	APLOTAXENE	Root				Jim Duke's personal files.
0	APLOTAXENE	Plant				--
0	ARCTIC-ACID	Plant				--
0	ARCTIC-ACID-B	Root		0.0		Jim Duke's personal files.
0	ARCTIC-ACID-B-METHYL-ESTER	Root				Jim Duke's personal files.
0	ARCTIC-ACID-C	Root		0.1		Jim Duke's personal files.
22	ARCTIGENIN	Plant				--
22	ARCTIGENIN	Seed	165.5	166.6		Jim Duke's personal files.
22	ARCTIGENIN	Fruit				Jim Duke's personal files.
0	ARCTIGENIN-4-BETA-D-GLUCOPYRANOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ARCTIGENIN-4-O-GLUCOSIDE	Fruit				Jim Duke's personal files.
0	ARCTIGNAN-A	Fruit		125.0		Jim Duke's personal files.
0	ARCTIGNAN-B	Fruit		150.0		Jim Duke's personal files.
0	ARCTIGNAN-C	Fruit		140.0		Jim Duke's personal files.
0	ARCTIGNAN-D	Fruit		250.0		Jim Duke's personal files.
0	ARCTIGNAN-E	Fruit		270.0		Jim Duke's personal files.
4	ARCTIIN	Fruit				Jim Duke's personal files.
4	ARCTIIN	Seed	11.7	30000.0		Jim Duke's personal files.
4	ARCTIIN	Plant				--
0	ARCTINAL	Root		0.2		--
0	ARCTINAL	Plant				--
0	ARCTINOL	Root				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ARCTINOL	Plant				--
0	ARCTINOL-A	Root		0.1		Jim Duke's personal files.
0	ARCTINOL-B	Root		0.3		Jim Duke's personal files.
0	ARCTINONE	Plant				--
0	ARCTINONE	Root				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ARCTINONE-A	Root		3.0		Jim Duke's personal files.
0	ARCTINONE-A-ACETATE	Root				Jim Duke's personal files.
0	ARCTINONE-ACETATE	Plant				--
0	ARCTINONE-B	Root		0.0		Jim Duke's personal files.
0	ARCTIOL	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	ARCTIOPICRIN	Leaf				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	ARCTIUM-ACIDIC-XYLAN	Plant				Jim Duke's personal files.
0	ARCTIUM-LAPPA-ANTIMUTAGEN	Root		90.0		Jim Duke's personal files.
0	ARCTIUM-LAPPA-SESQUILIGNAN-AL-D	Fruit				Jim Duke's personal files.
0	ARCTIUM-LAPPA-SESQUILIGNAN-AL-F	Fruit				Jim Duke's personal files.
0	ARCTIUM-XYLOGLUCAN-HC-II-B	Plant				Jim Duke's personal files.
14	ARGININE	Root	1050.0	5250.0	-0.2760103779139148	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Root	20.0	85.0	-0.5973838006253391	--
0	ASH	Root	7990.0	34000.0	-0.9582876583301422	--
0	ASH	Leaf	8200.0	35600.0	-1.466792613638666	Wealth of India.
3	ASPARTIC-ACID	Root	1770.0	8850.0	-0.1433959040036098	USDA's Ag Handbook 8 and sequelae)
51	ATROPINE	Root	0.3	30.0	1.0	Jim Duke's personal files.
0	BENEDICTINOLIDE	Leaf				--
24	BENZALDEHYDE	Root				--
9	BETA-AMYRIN	Plant				Jim Duke's personal files.
9	BETA-AMYRIN	Leaf				--
4	BETA-AMYRIN-ACETATE	Plant				Jim Duke's personal files.
53	BETA-CAROTENE	Root	11.0	45.0	-0.148681458601344	--
5	BETA-ELEMENE	Root				Jim Duke's personal files.
13	BETA-EUDES MOL	Leaf				--
47	BETA-SITOSTEROL	Plant				Jim Duke's personal files.
0	BIS-5',5'-ARCTIGENIN	Seed		2.3		Jim Duke's personal files.
6	BUTYRIC-ACID	Plant				--
102	CAFFEIC-ACID	Root		2500.0	0.16650294770473825	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Root	1723.0	7330.0	-0.00797338977234112	--
0	CARBOHYDRATES	Root	200925.0	855000.0	0.32037194412900694	--
31	CARYOPHYLLENE	Root				Jim Duke's personal files.
77	CHLOROGENIC-ACID	Root				--
24	CHROMIUM	Root	0.5	2.0	-0.1613147228789458	--
0	CLOVENE	Root				Jim Duke's personal files.
0	CNICINOLIDE	Leaf				--
2	COBALT	Root	3.0	12.0	-0.28474799428518266	--
12	COPPER	Root		29.0	1.9129739707626465	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
2	COSTIC-ACID	Plant				--
2	COSTIC-ACID	Root				--
2	CYPERENE	Root				Jim Duke's personal files.
2	CYSTINE	Root	60.0	300.0	-1.2393365913901333	USDA's Ag Handbook 8 and sequela)
5	DAUCOSTEROL	Seed		170.6	1.3994486472112773	Jim Duke's personal files.
1	DECAN-1-AL	Root				Jim Duke's personal files.
4	DEHYDROCOSTUS-LACTONE	Root				Jim Duke's personal files.
4	DEHYDROCOSTUS-LACTONE	Plant				--
0	DEHYDRODIHYDROCOSTUS-LACTONE	Root				Jim Duke's personal files.
0	DEHYDRODIHYDROCOSTUS-LACTONE	Plant				--
0	DEHYDROFUKINONE	Plant				--
0	DEHYDROFUKINONE	Leaf				--
1	DESMUTAGENIC FACTOR	Root		146.0		Jim Duke's personal files.
0	DIHYDROAPLOTAXENE	Root				Jim Duke's personal files.
0	EO	Root	600.0	7500.0	-0.3015226969562038	Wealth of India.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EO	Leaf		285.0	-0.9895505643256359	Wealth of India.
0	EREMOPHILENE	Leaf				--
0	FAT	Leaf	1300.0	8335.0	-0.9590187163643392	Wealth of India.
0	FAT	Root	1645.0	7000.0	-0.5295695632589758	--
0	FAT	Fruit	150000.0	300000.0	1.6501237791645091	--
15	FIBER	Root	19400.0	97000.0	0.19738976012277715	--
15	FIBER	Leaf	20000.0	94700.0	-0.8264904309689535	Wealth of India.
0	FIBER(CRUDE)	Root		72000.0	-1.1616741196232196	--
0	FIBER(DIETARY)	Root		700000.0	3.29347609665689	--
8	FRUCTOSE	Root				Jim Duke's personal files.
0	FUKINANOLIDE	Leaf				--
0	FUKINONE	Leaf				--
0	FUKIONE	Leaf				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
22	GABA	Root		25.0	-0.7148251719310679	Wealth of India.
0	GAMMA-GUANIDINO-N-BUTYRIC-ACID	Root		25.0		--
0	GERMACRANOLIDE	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
7	GLUCOSE	Root				Jim Duke's personal files.
8	GLUTAMIC-ACID	Root	1570.0	7850.0	-0.6250548944791179	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Root	310.0	1550.0	-0.9327345082827507	USDA's Ag Handbook 8 and sequelae)
0	HEPTADEC-1-ENE	Root				Jim Duke's personal files.
0	HEPTADECA-1-CIS-8-CIS-15-TRIENE-11,13-DIYNE	Root				Jim Duke's personal files.
0	HEPTAN-1-AL	Root				Jim Duke's personal files.
0	HEX-2-EN-1-AL	Root				Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEX-3-EN-1-AL	Root				Jim Duke's personal files.
0	HEX-3-EN-1-OIC-ACID	Root				Jim Duke's personal files.
7	HISTIDINE	Root	310.0	1550.0	-0.235775973025123	USDA's Ag Handbook 8 and sequelae)
19	INULIN	Root	94000.0	500000.0	0.9709459983314757	--
6	IRON	Root	35.0	147.0	-0.22809300347724715	--
4	ISOCHLOROGENIC-ACID	Leaf				Wealth of India.
0	ISOLAPPAOL-C	Seed				Jim Duke's personal files.
0	ISOLAPPAOLA	Fruit		50.0		Jim Duke's personal files.
0	ISOLAPPAOLA	Seed				Jim Duke's personal files.
3	ISOLEUCINE	Root	300.0	1500.0	-1.026448865036451	USDA's Ag Handbook 8 and sequelae)
5	ISOVALERIC-ACID	Plant				--
0	KILOCALORIES	Root	720.0	3790.0	0.9325990878892336	Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	LAPPANAESTHIN	Seed				--
0	LAPPANESTHIN	Seed				Wealth of India.
0	LAPPAOL-A-THRU-H	Plant				--
0	LAPPAOL-B	Seed				--
0	LAPPAOL-C	Seed				--
0	LAPPAOL-C	Fruit		15.0		Jim Duke's personal files.
0	LAPPAOL-D	Seed				--
0	LAPPAOL-E	Fruit		60.0		Jim Duke's personal files.
0	LAPPAOL-E	Seed				--
0	LAPPAOL-F	Fruit		60.0		Jim Duke's personal files.
0	LAPPAOL-F	Seed		2.3		--
0	LAPPAOL-H	Seed				--
0	LAPPAOLA	Fruit		100.0		Jim Duke's personal files.
0	LAPPAOLA	Seed				Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LAPPAPHEN-A	Root		0.0		Jim Duke's personal files.
0	LAPPAPHEN-A	Plant				--
0	LAPPAPHEN-B	Root		0.0		Jim Duke's personal files.
0	LAPPAPHEN-B	Plant				--
0	LAPPAURIC-ACID	Plant				--
0	LAPPAURIN	Seed				Wealth of India.
7	LAURIC-ACID	Plant				--
7	LAURIC-ACID	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
2	LEUCINE	Root	320.0	1600.0	-1.5972475612886774	USDA's Ag Handbook 8 and sequelae)
13	LIGNIN	Plant				--
27	LINOLEIC-ACID	Fruit	103500.0	124200.0	1.3968737201405899	Wealth of India.
0	LINOLENIC-ACID	Fruit	6000.0	7200.0	0.057806087658539305	Wealth of India.
21	LUPEOL	Plant				Jim Duke's personal files.
21	LUPEOL	Leaf				--
2	LUPEOL-ACETATE	Plant				Jim Duke's personal files.
4	LYSINE	Root	670.0	3350.0	-0.3553603353392198	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Root	1262.0	5370.0	1.4943915864476263	--
14	MANGANESE	Root	1.4	6.0	-0.47422778363505214	--
4	MATAIRESINOL	Fruit	60.0	350.0		Jim Duke's personal files.
4	MATAIRESINOL	Seed		170.6		Jim Duke's personal files.
4	MATAIRESINOL	Plant				--
1	MERCURY	Root		1.27	4.056631483285861	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
15	METHIONINE	Root	90.0	450.0	-1.0886471756957197	USDA's Ag Handbook 8 and sequelae)



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	METHYL-ARCTATE-B	Plant				--
3	MUCILAGE	Plant	50000.0	120000.0	-0.25051722911671365	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
3	MUCILAGE	Root	11750.0	120000.0	-0.2513892222400114	--
6	MYRISTIC-ACID	Plant				--
0	NEOARC-B	Seed				Jim Duke's personal files.
0	NEOARCTIN-B	Seed		38.0		Jim Duke's personal files.
39	NIACIN	Root	3.0	13.0	-1.079268462705004	--
0	OCT-2-EN-1-AL	Root				Jim Duke's personal files.
0	OCT-3-EN-1-OIC-ACID	Root				Jim Duke's personal files.
18	OLEIC-ACID	Fruit	30000.0	36000.0	-0.20328110195358376	Wealth of India.
13	PALMITIC-ACID	Root				Jim Duke's personal files.
13	PALMITIC-ACID	Fruit	10500.0	12600.0	-0.16938025724372155	Wealth of India.
0	PECTINESTERASE	Leaf				Wealth of India.
0	PENTADEC-1-ENE	Root				Jim Duke's personal files.
0	PEROXIDASE	Leaf				Wealth of India.
0	PETASITALONE	Leaf				--
0	PETASITOLONE	Leaf				--
2	PHENYL-ACETALDEHYDE	Root				--
7	PHENYLALANINE	Root	330.0	1650.0	-1.1170286109180518	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Root	1027.0	4370.0	0.14974951763203476	--
1	PHYTOL	Leaf				--
2	PHYTOSTEROLS	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	POLYACETYLENES	Root	10.0	20.0		Wealth of India.
0	POLYGALACTURONASE	Leaf				Wealth of India.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	POLYPHENOL-OXIDASE	Leaf				Wealth of India.
30	POLYPHENOLS	Root	19000.0	36500.0	1.0	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
14	POTASSIUM	Root	3948.0	16800.0	0.07477700255119245	--
0	PROLINE	Root	520.0	2600.0	0.43323535572821265	USDA's Ag Handbook 8 and sequelae)
6	PROPIONIC-ACID	Plant				--
0	PROTEIN	Root	24910.0	106000.0	-0.13939391839403442	--
0	PROTEIN	Leaf	32000.0	140150.0	-0.7152273911894512	Wealth of India.
0	PSEUDOTARAXASTEROL	Plant				Jim Duke's personal files.
0	PSEUDOTARAXASTEROL-ACETATE	Plant				Jim Duke's personal files.
0	PSI-TARAXASTEROL	Leaf				--
15	RIBOFLAVIN	Root	0.8	3.4	-0.14761901787013534	--
60	SELENIUM	Root	0.3	1.4	-0.26286169402261483	--
1	SERINE	Root	250.0	1250.0	-1.1895044313950447	USDA's Ag Handbook 8 and sequelae)
0	SESQUILIGNANS	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
4	SILICON	Root	5.3	22.5	-0.23954668838760487	--
0	SITOSTEROL	Root				Wealth of India.
1	SODIUM	Root	357.0	1520.0	0.1949623126900184	--
5	STARCH	Root	28200.0	120000.0	-0.818804895582863	--
8	STEARIC-ACID	Plant				--
8	STEARIC-ACID	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	STEROLS	Root		200.0		Wealth of India.
12	STIGMASTEROL	Plant				Jim Duke's personal files.
12	STIGMASTEROL	Root				Wealth of India.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SUGARS	Root	35250.0	150000.0	0.44638269230228217	--
2	TARAXASTEROL	Plant				Jim Duke's personal files.
2	TARAXASTEROL	Leaf				Wealth of India.
2	TARAXASTEROL-ACETATE	Plant				Jim Duke's personal files.
2	TARAXASTEROL-ACETATE	Leaf				Wealth of India.
0	TARAXASTEROL-PALMITATE	Leaf				Jim Duke's personal files.
0	TETRADECA-TRANS-4-CIS-6-DIENE-8,12-DIYNE-1,3-DIOL-DIACETATE	Root				Jim Duke's personal files.
0	TETRADECA-TRANS-4-CIS-6-TRANS-12-TRIENE-8,10-DIYNE-1,3-DIOL-DIACETATE	Root				Jim Duke's personal files.
0	TETRADECA-TRANS-4-TRANS-6-DIENE-8,10,12-TRIYNE-1,3-DIOL-DIACETATE	Root				Jim Duke's personal files.
0	TETRADECA-TRANS-4-TRANS-6-TRANS-12-TRIENE-8,10-DIYNE-1,3-DIOL-DIACETATE	Root				Jim Duke's personal files.
31	THIAMIN	Root	1.0	11.0	0.384789019052169	--
0	THIAMINE	Root	2.6	11.0	1.3683576310645862	--
4	THREONINE	Root	260.0	1300.0	-0.7216409513599528	USDA's Ag Handbook 8 and sequelae)
1	TIGLIC-ACID	Plant				--
4	TIN	Root	5.0	21.0	0.4588256824495934	--
12	TRACHELOGENIN	Fruit				Jim Duke's personal files.
12	TRACHELOGENIN	Plant				--
0	TRIDEC-1-ENE-3-5-7-9-11-PENTAYNE	Root		1.0	-1.0644228771428472	Jim Duke's personal files.
0	TRIDECA-1-11-DIENE-3-5-7-9-TETRAYNE	Root		2.0	-0.6284867817517097	--
0	TRIDECA-1-TRANS-11-DIENE-3,5,7,9-TETRAYNE	Root				Jim Duke's personal files.
0	TRIDECA-1-TRANS-3-TRANS-11-TRIENE-5,7,9-TRIYNE	Root				Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
29	TRYPTOPHAN	Root	60.0	300.0	-1.7641966493136618	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Root	180.0	900.0	-1.7927983636148572	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Root	330.0	1650.0	-1.4093638383718028	USDA's Ag Handbook 8 and sequelae)
0	WATER	Root		765000.0	-0.02778414569046033	--
0	WATER	Leaf		738000.0	-0.3474211280143851	Wealth of India.
77	ZINC	Root	0.5	2.2	-0.9625912271962561	--