

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Armoracia rusticana*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2-BUTYL-ISOTHIOCYANATE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	3-(METHYLTHIO)-PROPYL-ISOTHIOCYANATE	Root				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	3-BENZYLISOTHIOCYANATE	Root				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
1	3-BUTENYL-ISOTHIOCYANATE	Root				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	3-O-(2-O-(BETA-D-XYLOPYRANOSYL)-BETA-D-GALACTOPYRANOSYL)-FLAVONE	Leaf	6.0	20.0		--
0	3-O-(2-O-(BETA-D-XYLOPYRANOSYL)-BETA-D-GALACTOPYRANOSYL)-QUERCETIN	Leaf	1.0	4.0		--
0	3-O-(BETA-D-GALACTOPYRANOSYL)-KAEMPFEROL	Leaf				--
0	3-O-(BETA-D-GALACTOPYRANOSYL)-QUERCETIN	Leaf				--
0	3-O-BETA-D-GLUCOSYL-BETA-D-KAEMPFEROL-XYLOSIDE	Leaf				Abstract (See species file)
0	3-O-BETA-D-GLUCOSYL-BETA-D-QUERCETIN-XYLOSIDE	Leaf				Abstract (See species file)
0	3-O-BETA-D-KAEMPFEROL-GLUCOSIDE	Leaf				Abstract (See species file)
0	3-O-BETA-D-QUERCETIN-GLUCOSIDE	Leaf				Abstract (See species file)
1	4-PENTENYL-ISOTHIOCYANATE	Root				Wealth of India.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
32	AESCULETIN	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	ALLOXURBASEN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
16	ALLYL-ISOTHIOCYANATE	Root	400.0	2592.0		--
7	ALLYL-SULFIDE	Root				Wealth of India.
5	ALUMINUM	Root	4.0	30.0	-0.2963835040806538	ACTA AGRIC SCAND SUPPL 22: 1980
1	AMYLASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	ARGININE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	ARSENIC	Root	0.01	0.04	-0.20577574015712302	ACTA AGRIC SCAND SUPPL 22: 1980
112	ASCORBIC-ACID	Root	1800.0	10000.0	5.070471286124204	--
112	ASCORBIC-ACID	Plant	1220.0	18200.0	3.6789306859570874	--
112	ASCORBIC-ACID	Leaf	2440.0	4560.0	-0.020810203280628586	--
0	ASH	Root	10620.0	59000.0	-0.2444004558296572	--
0	ASH	Plant		200000.0	1.4269853561791084	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	ASPARAGINE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
53	BETA-CAROTENE	Root	27.0	150.0	0.5227136521125912	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
47	BETA-SITOSTEROL	Root		710.0	-0.25867676228885333	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	BIOSIDE	Leaf				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
4	BORON	Root	6.0	27.0	0.10907004695750487	ACTA AGRIC SCAND SUPPL 22: 1980
0	BROMINE	Root	5.0	19.0	1.3171281598976525	ACTA AGRIC SCAND SUPPL 22: 1980
0	BUTYLISOTHIOCYANATE	Plant	188.0	2867.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	CADMIUM	Root	0.08	0.5	-0.36034786075591185	ACTA AGRIC SCAND SUPPL 22: 1980
102	CAFFEIC-ACID	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
28	CALCIUM	Root	1800.0	10000.0	0.28443978784453666	--
2	CAMPESTEROL	Root		200.0	1.2834996430471919	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	CARBOHYDRATES	Root	155000.0	783000.0	-0.6037053926433201	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
7	CHLORINE	Root	185.0	745.0	0.3641382774206427	Wealth of India.
24	CHROMIUM	Root	0.6	3.5	0.13765284526356406	--
2	COBALT	Root				--
12	COPPER	Root	1.0	9.0	-0.30116857246091955	--
0	D-2-BUTYLISOTHIOCYANATE	Seed				--
0	EO	Root	500.0	2160.0	-0.5530506754837335	--

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0	EO	Plant	200.0	3050.0	-0.5083339974706322	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	ETHYL-ISOTHIOCYANATE	Root				Wealth of India.
0	FAT	Root	5040.0	28000.0	0.1707507790690317	--
15	FIBER	Root	14000.0	94000.0	0.130764747590634	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FIBER(CRUDE)	Root		122000.0	0.3171910897303088	--
0	FIBER(DIETARY)	Root		430000.0	0.34479309207066455	--
0	FLUORINE	Root		0.1	-0.8144046057224281	ACTA AGRIC SCAND SUPPL 22: 1980
8	FRUCTOSE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	GENTISIC-ACID	Root		15.0		--
0	GLUCOBERTEROIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	GLUCOBASSICANAPIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	GLUCOCAPPARIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	GLUCOCHEIROLIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

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0	GLUCOCOCHLEARIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GLUCOCONRINGIIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	GLUCOIBERIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	GLUCOIBERVERIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	GLUCOLEPIDIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	GLUCONAPIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	GLUCONASTURTIIN	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	GLUCOPUTRANJIVIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	GLUCOSE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

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0	GLUCOSINOLATES	Root				--
0	GLUCOTROPAEOLIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	HAEMATIN	Root	13.0	16.0		Wealth of India.
0	HYDROXYCINNAMIC-ACID	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	INVERSTASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	IRON	Root	1.4	8.0	-0.4300308811451584	--
0	ISOPROPYLISOTHIOCYANATE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ISOTHIOCYANATES	Root	12200.0	20400.0		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
75	KAEMPFEROL	Leaf				Abstract (See species file)
75	KAEMPFEROL	Root		6.0		--
0	KAEMPFEROL-3-O-BETA-D-XYLOFURANOSIDE	Shoot				--
0	KAEMPFEROL-3-O-BETA-D-XYLOFURANOSYL(1,2)-GALACTOPYRANOSIDE	Shoot				--
0	KILOCALORIES	Seed	600.0	2370.0	-1.9478218965025125	Wealth of India.
0	LEAD	Root	0.02	0.15	-0.6572844818658716	ACTA AGRIC SCAND SUPPL 22: 1980
60	LIMONENE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

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0	LIPASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
65	MAGNESIUM	Root	1624.0	9020.0	3.436573672307347	--
14	MANGANESE	Root	1.5	8.2	-0.44795773578567305	--
1	MERCURY	Root		0.001	-0.508569995990937	ACTA AGRIC SCAND SUPPL 22: 1980
0	METHYL-ISOTHIOCYANATE	Root				Wealth of India.
2	MOLYBDENUM	Root		0.1	-0.46089530570591497	ACTA AGRIC SCAND SUPPL 22: 1980
0	MYROSIN	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	MYROSINASE	Root				--
39	NIACIN	Root	16.0	90.0	1.1523682511680913	--
3	NICKEL	Root	0.2	1.2	-0.495065007546234	ACTA AGRIC SCAND SUPPL 22: 1980
0	NITROGEN	Root	8600.0	38461.0	1.3020990395574676	ACTA AGRIC SCAND SUPPL 22: 1980
13	P-HYDROXY-BENZOIC-ACID	Root		14.0		--
24	PECTIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PEROXIDASE	Root				--
0	PEROXIDASES	Root	350.0	1400.0		--
0	PHENYLETHYL-ISOTHIOCYANATE	Root	292.0	540.0		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
1	PHENYLPROPYL-ISOTHIOCYANATE	Root				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
0	PHOSPHATASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

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4	PHOSPHORUS	Root	1278.0	7100.0	0.6294359439199063	--
2	PHYTOSTEROLS	Root		910.0	0.014453690337214282	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
14	POTASSIUM	Root	5400.0	30000.0	1.0413262881316638	--
0	PROTEASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PROTEIN	Leaf	21000.0	28000.0	-1.8340320033979245	Wealth of India.
0	PROTEIN	Root	45000.0	250000.0	1.4776556490763388	--
176	QUERCETIN	Leaf				Abstract (See species file)
3	RAPHANIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	RIBOFLAVIN	Root	4.0	20.0	3.485161664486578	--
0	RUBIDIUM	Root	0.9	4.6	-1.1478999953405424	ACTA AGRIC SCAND SUPPL 22: 1980
4	RUTOSIDE	Leaf				--
7	SALICYLATES	Root	1.0	2.0	-0.6930213679572391	--
60	SELENIUM	Root				--
4	SILICON	Root	0.4	2.0	-0.33371737669722845	--
9	SINAPIC-ACID	Plant				--
0	SINAPIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	SINIGRIN	Root		3000.0		--
1	SODIUM	Root	216.0	1200.0	0.045965512774069996	--
5	STARCH	Root	39600.0	220000.0	-0.40048460622279153	--



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12	STIGMASTEROL	Root		0.0	-0.8132428087578462	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	SUGAR	Root		73000.0	0.26745753103716463	Wealth of India.
14	SULFUR	Root	1800.0	10000.0	2.1484129636070275	ACTA AGRIC SCAND SUPPL 22: 1980
35	TANNIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
31	THIAMIN	Root	0.0	3.0	-0.32687193108858614	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	THIAMINE	Root	0.2	1.0	-0.665115009526749	--
2	TRIFOLIN	Shoot				--
0	UMECYANIN	Plant				--
24	VANILLIC-ACID	Root		45.0	0.4683014551040585	--
0	WATER	Root		820000.0	0.33220504138805035	--
77	ZINC	Root	0.5	2.9	-0.9319328403212439	--