

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	CARBOHYDRATES	Root	155000.0	783000.0	-0.6037053926433201	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTEIN	Root	45000.0	250000.0	1.4776556490763388	--
5	STARCH	Root	39600.0	220000.0	-0.40048460622279153	--
0	PROTEIN	Leaf	21000.0	28000.0	-1.8340320033979245	Wealth of India.
15	FIBER	Root	14000.0	94000.0	0.130764747590634	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.
0	ASH	Root	10620.0	59000.0	-0.2444004558296572	--
0	NITROGEN	Root	8600.0	38461.0	1.3020990395574676	ACTA AGRIC SCAND SUPPL 22: 1980
14	POTASSIUM	Root	5400.0	30000.0	1.0413262881316638	--
0	FAT	Root	5040.0	28000.0	0.1707507790690317	--
112	ASCORBIC-ACID	Leaf	2440.0	4560.0	-0.020810203280628586	--
112	ASCORBIC-ACID	Root	1800.0	10000.0	5.070471286124204	--
28	CALCIUM	Root	1800.0	10000.0	0.28443978784453666	--
14	SULFUR	Root	1800.0	10000.0	2.1484129636070275	ACTA AGRIC SCAND SUPPL 22: 1980
65	MAGNESIUM	Root	1624.0	9020.0	3.436573672307347	--
4	PHOSPHORUS	Root	1278.0	7100.0	0.6294359439199063	--
112	ASCORBIC-ACID	Plant	1220.0	18200.0	3.6789306859570874	--
0	KILOCALORIES	Seed	600.0	2370.0	-1.9478218965025125	Wealth of India.
0	EO	Root	500.0	2160.0	-0.5530506754837335	--
16	ALLYL-ISOTHIOCYANATE	Root	400.0	2592.0		--
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	SODIUM	Root	216.0	1200.0	0.045965512774069996	--
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.
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.
7	CHLORINE	Root	185.0	745.0	0.3641382774206427	Wealth of India.
53	BETA-CAROTENE	Root	27.0	150.0	0.5227136521125912	--
39	NIACIN	Root	16.0	90.0	1.1523682511680913	--
0	HAEMATIN	Root	13.0	16.0		Wealth of India.
0	3-O-(2-O-(BETA-D-XYLOPYRANOSYL)-BETA-D-GALACTOPYRANOSYL)-FLAVONE	Leaf	6.0	20.0		--
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
15	RIBOFLAVIN	Root	4.0	20.0	3.485161664486578	--
5	ALUMINUM	Root	4.0	30.0	-0.2963835040806538	ACTA AGRIC SCAND SUPPL 22: 1980
14	MANGANESE	Root	1.5	8.2	-0.44795773578567305	--
6	IRON	Root	1.4	8.0	-0.4300308811451584	--
7	SALICYLATES	Root	1.0	2.0	-0.6930213679572391	--
0	3-O-(2-O-(BETA-D-XYLOPYRANOSYL)-BETA-D-GALACTOPYRANOSYL)-QUERCETIN	Leaf	1.0	4.0		--
12	COPPER	Root	1.0	9.0	-0.30116857246091955	--
0	RUBIDIUM	Root	0.9	4.6	-1.1478999953405424	ACTA AGRIC SCAND SUPPL 22: 1980
24	CHROMIUM	Root	0.6	3.5	0.13765284526356406	--
77	ZINC	Root	0.5	2.9	-0.9319328403212439	--
4	SILICON	Root	0.4	2.0	-0.33371737669722845	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	THIAMINE	Root	0.2	1.0	-0.665115009526749	--
3	NICKEL	Root	0.2	1.2	-0.495065007546234	ACTA AGRIC SCAND SUPPL 22: 1980
3	CADMIUM	Root	0.08	0.5	-0.36034786075591185	ACTA AGRIC SCAND SUPPL 22: 1980
0	LEAD	Root	0.02	0.15	-0.6572844818658716	ACTA AGRIC SCAND SUPPL 22: 1980
2	ARSENIC	Root	0.01	0.04	-0.20577574015712302	ACTA AGRIC SCAND SUPPL 22: 1980
31	THIAMIN	Root	0.0	3.0	-0.32687193108858614	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	GLUCOIBERBERIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	MERCURY	Root		0.001	-0.508569995990937	ACTA AGRIC SCAND SUPPL 22: 1980
60	SELENIUM	Root				--
0	GLUCOCONRINGIIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	3-O-BETA-D-KAEMPFEROL-GLUCOSIDE	Leaf				Abstract (See species file)
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.
1	4-PENTENYL-ISOTHIOCYANATE	Root				Wealth of India.
2	COBALT	Root				--
1	PHENYLPROPYL-ISOTHIOCYANATE	Root				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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	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.
4	RUTOSIDE	Leaf				--
0	GLUCOCOCHLEARIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	3-O-BETA-D-GLUCOSYL-BETA-D-QUERCETIN-XYLOSIDE	Leaf				Abstract (See species file)
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-O-(BETA-D-GALACTOPYRANOSYL)-QUERCETIN	Leaf				--
0	WATER	Root		820000.0	0.33220504138805035	--
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.
8	GENTISIC-ACID	Root		15.0		--
0	3-O-BETA-D-GLUCOSYL-BETA-D-KAEMPFEROL-XYLOSIDE	Leaf				Abstract (See species file)
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.
24	VANILLIC-ACID	Root		45.0	0.4683014551040585	--

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0	PEROXIDASE	Root				--
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	LIPASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	MYROSINASE	Root				--
8	FRUCTOSE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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-(BETA-D-GALACTOPYRANOSYL)-KAEMPFEROL	Leaf				--
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.)
24	PECTIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	GLUCOBRASSICANAPIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
2	TRIFOLIN	Shoot				--

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3	RAPHANIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	FLUORINE	Root		0.1	-0.8144046057224281	ACTA AGRIC SCAND SUPPL 22: 1980
0	UMECYANIN	Plant				--
0	METHYL-ISOTHIOCYANATE	Root				Wealth of India.
35	TANNIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	P-HYDROXY-BENZOIC-ACID	Root		14.0		--
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.
75	KAEMPFEROL	Leaf				Abstract (See species file)
14	ARGININE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	KAEMPFEROL-3-O-BETA-D-XYLOFURANOSYL(1,2)-GALACTOPYRANOSIDE	Shoot				--
176	QUERCETIN	Leaf				Abstract (See species file)
0	FIBER(DIETARY)	Root		430000.0	0.34479309207066455	--
75	KAEMPFEROL	Root		6.0		--
1	ETHYL-ISOTHIOCYANATE	Root				Wealth of India.
0	ISOPROPYLISOTHIOCYANATE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	AMYLASE	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	KAEMPFEROL-3-O-BETA-D-XYLOFURANOSIDE	Shoot				--
0	FIBER(CRUDE)	Root		122000.0	0.3171910897303088	--
0	GLUCOSINOLATES	Root				--
7	SINIGRIN	Root		3000.0		--
0	PROTEASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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	SINAPIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	INVERSTASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
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	2-BUTYL-ISOTHIOCYANATE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.

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0	MYROSIN	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	BIOSIDE	Leaf				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
9	SINAPIC-ACID	Plant				--
7	GLUCOSE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ALLOXURBASEN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
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	D-2-BUTYLISOTHIOCYANATE	Seed				--
0	SUGAR	Root		73000.0	0.26745753103716463	Wealth of India.
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.
2	MOLYBDENUM	Root		0.1	-0.46089530570591497	ACTA AGRIC SCAND SUPPL 22: 1980
2	ASPARAGINE	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	GLUCOPUTRANJIVIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	3-O-BETA-D-QUERCETIN-GLUCOSIDE	Leaf				Abstract (See species file)
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.
7	ALLYL-SULFIDE	Root				Wealth of India.
0	PHOSPHATASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.)
60	LIMONENE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.