

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Armoracia rusticana*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
176	QUERCETIN	Leaf				Abstract (See species file)
112	ASCORBIC-ACID	Leaf	2440.0	4560.0	-0.020810203280628586	--
112	ASCORBIC-ACID	Root	1800.0	10000.0	5.070471286124204	--
112	ASCORBIC-ACID	Plant	1220.0	18200.0	3.6789306859570874	--
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.
77	ZINC	Root	0.5	2.9	-0.9319328403212439	--
75	KAEMPFEROL	Leaf				Abstract (See species file)
75	KAEMPFEROL	Root		6.0		--
65	MAGNESIUM	Root	1624.0	9020.0	3.436573672307347	--
60	LIMONENE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	SELENIUM	Root				--
53	BETA-CAROTENE	Root	27.0	150.0	0.5227136521125912	--
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.)
39	NIACIN	Root	16.0	90.0	1.1523682511680913	--
35	TANNIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
31	THIAMIN	Root	0.0	3.0	-0.32687193108858614	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Root	1800.0	10000.0	0.28443978784453666	--
24	PECTIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
24	CHROMIUM	Root	0.6	3.5	0.13765284526356406	--
24	VANILLIC-ACID	Root		45.0	0.4683014551040585	--
16	ALLYL-ISOTHIOCYANATE	Root	400.0	2592.0		--
15	RIBOFLAVIN	Root	4.0	20.0	3.485161664486578	--
15	FIBER	Root	14000.0	94000.0	0.130764747590634	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	ARGININE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SULFUR	Root	1800.0	10000.0	2.1484129636070275	ACTA AGRIC SCAND SUPPL 22: 1980
14	POTASSIUM	Root	5400.0	30000.0	1.0413262881316638	--
14	MANGANESE	Root	1.5	8.2	-0.44795773578567305	--
13	P-HYDROXY-BENZOIC-ACID	Root		14.0		--
12	COPPER	Root	1.0	9.0	-0.30116857246091955	--
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.)
9	SINAPIC-ACID	Plant				--
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		--
7	CHLORINE	Root	185.0	745.0	0.3641382774206427	Wealth of India.
7	SINIGRIN	Root		3000.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	GLUCOSE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	ALLYL-SULFIDE	Root				Wealth of India.
7	SALICYLATES	Root	1.0	2.0	-0.6930213679572391	--
6	IRON	Root	1.4	8.0	-0.4300308811451584	--
5	ALUMINUM	Root	4.0	30.0	-0.2963835040806538	ACTA AGRIC SCAND SUPPL 22: 1980
5	STARCH	Root	39600.0	220000.0	-0.40048460622279153	--
4	BORON	Root	6.0	27.0	0.10907004695750487	ACTA AGRIC SCAND SUPPL 22: 1980
4	PHOSPHORUS	Root	1278.0	7100.0	0.6294359439199063	--
4	SILICON	Root	0.4	2.0	-0.33371737669722845	--
4	RUTOSIDE	Leaf				--
3	RAPHANIN	Plant				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
3	NICKEL	Root	0.2	1.2	-0.495065007546234	ACTA AGRIC SCAND SUPPL 22: 1980
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.)
2	TRIFOLIN	Shoot				--
2	ARSENIC	Root	0.01	0.04	-0.20577574015712302	ACTA AGRIC SCAND SUPPL 22: 1980
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.)
2	MOLYBDENUM	Root		0.1	-0.46089530570591497	ACTA AGRIC SCAND SUPPL 22: 1980

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2	ASPARAGINE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	COBALT	Root				--
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.
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.
1	ETHYL-ISOTHIOCYANATE	Root				Wealth of India.
1	SODIUM	Root	216.0	1200.0	0.045965512774069996	--
1	AMYLASE	Root				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.
1	MERCURY	Root		0.001	-0.508569995990937	ACTA AGRIC SCAND SUPPL 22: 1980
1	4-PENTENYL-ISOTHIOCYANATE	Root				Wealth of India.
1	PHENYLPROPYL-ISOTHIOCYANATE	Root				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-O-(BETA-D-GALACTOPYRANOSYL)-KAEMPFEROL	Leaf				--
0	LEAD	Root	0.02	0.15	-0.6572844818658716	ACTA AGRIC SCAND SUPPL 22: 1980
0	FLUORINE	Root		0.1	-0.8144046057224281	ACTA AGRIC SCAND SUPPL 22: 1980
0	THIAMINE	Root	0.2	1.0	-0.665115009526749	--
0	UMECYANIN	Plant				--
0	METHYL-ISOTHIOCYANATE	Root				Wealth of India.
0	KAEMPFEROL-3-O-BETA-D-XYLOFURANOSYL(1,2)-GALACTOPYRANOSIDE	Shoot				--
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.
0	FIBER(DIETARY)	Root		430000.0	0.34479309207066455	--
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.
0	KILOCALORIES	Seed	600.0	2370.0	-1.9478218965025125	Wealth of India.
0	NITROGEN	Root	8600.0	38461.0	1.3020990395574676	ACTA AGRIC SCAND SUPPL 22: 1980
0	ISOPROPYLISOTHIOCYANATE	Plant				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-XYLOFURANOSIDE	Shoot				--
0	PROTEIN	Root	45000.0	250000.0	1.4776556490763388	--
0	FAT	Root	5040.0	28000.0	0.1707507790690317	--
0	FIBER(CRUDE)	Root		122000.0	0.3171910897303088	--
0	GLUCOSINOLATES	Root				--
0	BROMINE	Root	5.0	19.0	1.3171281598976525	ACTA AGRIC SCAND SUPPL 22: 1980

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HAEMATIN	Root	13.0	16.0		Wealth of India.
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	PROTEASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	EO	Root	500.0	2160.0	-0.5530506754837335	--
0	3-O-(2-O-(BETA-D-XYLOPYRANOSYL)-BETA-D-GALACTOPYRANOSYL)-FLAVONE	Leaf	6.0	20.0		--
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.
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	2-BUTYL-ISOTHIOCYANATE	Seed				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	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.
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.
0	D-2-BUTYLISOTHIOCYANATE	Seed				--
0	SUGAR	Root		73000.0	0.26745753103716463	Wealth of India.
0	PEROXIDASES	Root	350.0	1400.0		--
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.
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)
0	PHOSPHATASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.

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0	ASH	Root	10620.0	59000.0	-0.2444004558296572	--
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)
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.
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	PHENYLETHYL-ISOTHIOCYANATE	Root	292.0	540.0		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
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.
0	RUBIDIUM	Root	0.9	4.6	-1.1478999953405424	ACTA AGRIC SCAND SUPPL 22: 1980
0	3-O-BETA-D-GLUCOSYL-BETA-D-KAEMPFEROL-XYLOSIDE	Leaf				Abstract (See species file)



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
0	3-O-(2-O-(BETA-D-XYLOPYRANOSYL)-BETA-D-GALACTOPYRANOSYL)-QUERCETIN	Leaf	1.0	4.0		--
0	PEROXIDASE	Root				--
0	CARBOHYDRATES	Root	155000.0	783000.0	-0.6037053926433201	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTEIN	Leaf	21000.0	28000.0	-1.8340320033979245	Wealth of India.
0	MYROSINASE	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.