

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	WATER	Root		820000.0	0.33220504138805035	--
0	CARBOHYDRATES	Root	155000.0	783000.0	-0.6037053926433201	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FIBER(DIETARY)	Root		430000.0	0.34479309207066455	--
0	PROTEIN	Root	45000.0	250000.0	1.4776556490763388	--
5	STARCH	Root	39600.0	220000.0	-0.40048460622279153	--
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	FIBER(CRUDE)	Root		122000.0	0.3171910897303088	--
15	FIBER	Root	14000.0	94000.0	0.130764747590634	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	SUGAR	Root		73000.0	0.26745753103716463	Wealth of India.
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	--
0	PROTEIN	Leaf	21000.0	28000.0	-1.8340320033979245	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.
112	ASCORBIC-ACID	Plant	1220.0	18200.0	3.6789306859570874	--
28	CALCIUM	Root	1800.0	10000.0	0.28443978784453666	--
14	SULFUR	Root	1800.0	10000.0	2.1484129636070275	ACTA AGRIC SCAND SUPPL 22: 1980
112	ASCORBIC-ACID	Root	1800.0	10000.0	5.070471286124204	--
65	MAGNESIUM	Root	1624.0	9020.0	3.436573672307347	--
4	PHOSPHORUS	Root	1278.0	7100.0	0.6294359439199063	--
112	ASCORBIC-ACID	Leaf	2440.0	4560.0	-0.020810203280628586	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
7	SINIGRIN	Root		3000.0		--
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.
16	ALLYL-ISOTHIOCYANATE	Root	400.0	2592.0		--
0	KILOCALORIES	Seed	600.0	2370.0	-1.9478218965025125	Wealth of India.
0	EO	Root	500.0	2160.0	-0.5530506754837335	--
0	PEROXIDASES	Root	350.0	1400.0		--
1	SODIUM	Root	216.0	1200.0	0.045965512774069996	--
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.)
7	CHLORINE	Root	185.0	745.0	0.3641382774206427	Wealth of India.
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	PHENYLETHYL-ISOTHIOCYANATE	Root	292.0	540.0		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
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.)
53	BETA-CAROTENE	Root	27.0	150.0	0.5227136521125912	--
39	NIACIN	Root	16.0	90.0	1.1523682511680913	--
24	VANILLIC-ACID	Root		45.0	0.4683014551040585	--
5	ALUMINUM	Root	4.0	30.0	-0.2963835040806538	ACTA AGRIC SCAND SUPPL 22: 1980
4	BORON	Root	6.0	27.0	0.10907004695750487	ACTA AGRIC SCAND SUPPL 22: 1980

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	RIBOFLAVIN	Root	4.0	20.0	3.485161664486578	--
0	3-O-(2-O-(BETA-D-XYLOPYRANOSYL)-BETA-D-GALACTOPYRANOSYL)-FLAVONE	Leaf	6.0	20.0		--
0	BROMINE	Root	5.0	19.0	1.3171281598976525	ACTA AGRIC SCAND SUPPL 22: 1980
0	HAEMATIN	Root	13.0	16.0		Wealth of India.
8	GENTISIC-ACID	Root		15.0		--
13	P-HYDROXY-BENZOIC-ACID	Root		14.0		--
12	COPPER	Root	1.0	9.0	-0.30116857246091955	--
14	MANGANESE	Root	1.5	8.2	-0.44795773578567305	--
6	IRON	Root	1.4	8.0	-0.4300308811451584	--
75	KAEMPFEROL	Root		6.0		--
0	RUBIDIUM	Root	0.9	4.6	-1.1478999953405424	ACTA AGRIC SCAND SUPPL 22: 1980
0	3-O-(2-O-(BETA-D-XYLOPYRANOSYL)-BETA-D-GALACTOPYRANOSYL)-QUERCETIN	Leaf	1.0	4.0		--
24	CHROMIUM	Root	0.6	3.5	0.13765284526356406	--
31	THIAMIN	Root	0.0	3.0	-0.32687193108858614	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
77	ZINC	Root	0.5	2.9	-0.9319328403212439	--
4	SILICON	Root	0.4	2.0	-0.33371737669722845	--
7	SALICYLATES	Root	1.0	2.0	-0.6930213679572391	--
3	NICKEL	Root	0.2	1.2	-0.495065007546234	ACTA AGRIC SCAND SUPPL 22: 1980
0	THIAMINE	Root	0.2	1.0	-0.665115009526749	--
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
0	FLUORINE	Root		0.1	-0.8144046057224281	ACTA AGRIC SCAND SUPPL 22: 1980
2	MOLYBDENUM	Root		0.1	-0.46089530570591497	ACTA AGRIC SCAND SUPPL 22: 1980

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ARSENIC	Root	0.01	0.04	-0.20577574015712302	ACTA AGRIC SCAND SUPPL 22: 1980
1	MERCURY	Root		0.001	-0.508569995990937	ACTA AGRIC SCAND SUPPL 22: 1980
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.)
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				--
24	PECTIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	TRIFOLIN	Shoot				--
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.
3	RAPHANIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
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.
176	QUERCETIN	Leaf				Abstract (See species file)
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.
0	KAEMPFEROL-3-O-BETA-D-XYLOFURANOSIDE	Shoot				--
0	GLUCOSINOLATES	Root				--
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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	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.
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.
0	D-2-BUTYLISOTHIOCYANATE	Seed				--

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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	ASPARAGINE	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.
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.
0	PHOSPHATASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	LIMONENE	Plant				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.
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)

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.
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.
2	COBALT	Root				--
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.
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	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	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	PEROXIDASE	Root				--
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.