

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in Glechoma hederacea**

| Activity Count | Chemical                    | Plant Part | Low PPM | High PPM | StdDev              | Reference Citation   |
|----------------|-----------------------------|------------|---------|----------|---------------------|--|
| 4              | (+)-PULEGONE                | Plant      | --      | --       |                     |  |
| 67             | 1,8-CINEOLE                 | Plant      | 6       | 37       | -0.5512773271900201 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 1              | 2-ALPHA-HYDROXYURSOLIC-ACID | Plant      | --      | 20       |                     |  |
| 1              | 2-BETA-HYDROXYURSOLIC-ACID  | Plant      | --      | 600      |                     |  |
| 2              | 3-OCTANOL                   | Plant      | 1       | 2        | -0.6488601051507596 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 10             | ALPHA-AMYRIN                | Plant      | --      | --       |                     |  |
| 3              | ALPHA-CADINOL               | Plant      | 1       | 6        | -0.9281735937749103 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 28             | ALPHA-PINENE                | Plant      | 4       | 22       | -0.4659063062508129 |  |
| 23             | ALPHA-TERPINEOL             | Plant      | 1       | 7        | -0.4750331426952505 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 101            | APIGENIN                    | Plant      | --      | --       |                     | Jim Duke's personal files.   |
| 2              | ARSENIC                     | Plant      | --      | --       |                     | Chem. & Pharm. Bull. 38: 2205.   |
| 1              | ASIATIC-ACID                | Plant      | --      | --       |                     | Chemical Constituents of Oriental Herbs (3 diff. books)                                  |
| 3              | ASPARTIC-ACID               | Plant      | --      | --       |                     | Chemical Constituents of Oriental Herbs (3 diff. books)                                  |
| 9              | BETA-AMYRIN                 | Plant      | --      | --       |                     |  |
| 5              | BETA-ELEMENE                | Plant      | 9       | 53       | -0.2795003889825756 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |

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|----------------|------------------|------------|---------|----------|----------------------|--|
| 13             | BETA-PINENE      | Plant      | 3       | 17       | -0.417131127819555   | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.                               |
| 47             | BETA-SITOSTEROL  | Plant      | --      | --       |                      | Oriental Materia Medica (three volumes by Dr. Hsu and collaborators)   |
| 35             | BORNEOL          | Plant      | 1       | 5        | -0.6664178309874592  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.                               |
| 12             | BORNYL-ACETATE   | Plant      | 1       | 4        | -0.4664432496568186  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.                               |
| 102            | CAFFEIC-ACID     | Plant      | --      | --       |                      |  |
| 28             | CALCIUM          | Plant      | 21000   | 23000    | 1.0066208154808067   | Chem. & Pharm. Bull. 38: 2205.   |
| 9              | CAMPHENE         | Plant      | 1       | 3        | -0.6006926315197634  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.                               |
| 7              | CHLORINE         | Plant      | 8000    | 11000    | 1.0564720140341104   | Chem. & Pharm. Bull. 38: 2205.   |
| 77             | CHLOROGENIC-ACID | Plant      | --      | --       |                      | Vademecum Garcia, A.A., et al. 1998. Fitoterapia Vademecum de Prescripcioon. Masson, S. A. Barcelona, Espana. 1148 pp. |
| 20             | CHOLINE          | Plant      | --      | --       |                      |  |
| 24             | CHROMIUM         | Plant      | 3       | 4        | -0.49021456139793756 | Chem. & Pharm. Bull. 38: 2205.   |
| 3              | CIS-OCIMENE      | Plant      | 9       | 55       | -0.3228572549798686  |  |
| 12             | COPPER           | Plant      | 11      | 11       | -0.33406963620245544 | Chem. & Pharm. Bull. 38: 2205.   |
| 4              | COSMOSIIN        | Plant      | --      | --       |                      |  |
| 3              | CYNAROSIDE       | Plant      | --      | --       |                      |  |
| 2              | ELEMOL           | Plant      | 1       | 3        | -0.6215774055927659  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.                               |

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|----------------|----------------------|------------|---------|----------|----------------------|--|
| 61             | FERULIC-ACID         | Plant      | --      | --       |                      |  |
| 2              | GERMACRENE-D         | Plant      | 20      | 116      | -0.32380258707502446 |  |
| 8              | GLUTAMIC-ACID        | Plant      | --      | --       |                      | Oriental Materia Medica (three volumes by Dr. Hsu and collaborators)   |
| 30             | HYPEROSIDE           | Plant      | --      | --       |                      |  |
| 12             | IODINE               | Plant      | --      | --       |                      | Chem. & Pharm. Bull. 38: 2205.   |
| 6              | IRON                 | Plant      | 290     | 500      | -0.14948506775500356 | Chem. & Pharm. Bull. 38: 2205.   |
| 3              | ISOMENTHONE          | Plant      | --      | --       |                      | Chemical Constituents of Oriental Herbs (3 diff. books)  |
| 4              | ISOPINOCAMPHONE      | Plant      | --      | --       |                      | Chemical Constituents of Oriental Herbs (3 diff. books)  |
| 22             | ISOQUERCITRIN        | Plant      | --      | --       |                      |  |
| 1              | L-PULEGONE           | Plant      | --      | --       |                      | Chemical Constituents of Oriental Herbs (3 diff. books)  |
| 60             | LIMONENE             | Plant      | 1       | 6        | -0.4821163747169735  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.   |
| 78             | LUTEOLIN             | Plant      | --      | --       |                      | Jim Duke's personal files.   |
| 7              | LUTEOLIN-7-GLUCOSIDE | Plant      | --      | --       |                      | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin. |
| 14             | MANGANESE            | Plant      | 82      | 100      | 0.021813677839542838 | Chem. & Pharm. Bull. 38: 2205.   |
| 8              | MARRUBIIN            | Plant      | --      | --       |                      |  |
| 63             | MENTHOL              | Plant      | --      | --       |                      | Chemical Constituents of Oriental Herbs (3 diff. books)  |
| 2              | MOLYBDENUM           | Plant      | --      | --       |                      | Chem. & Pharm. Bull. 38: 2205.   |

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|----------------|-----------------|------------|---------|----------|----------------------|--|
| 22             | MYRCENE         | Plant      | 3       | 20       | -0.4541295384448474  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.   |
| 5              | MYRTENAL        | Plant      | 1       | 1        | -1                   | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.   |
| 3              | NICKEL          | Plant      | --      | --       |                      | Chem. & Pharm. Bull. 38: 2205.   |
| 2              | NONACOSANE      | Plant      | --      | --       |                      |  |
| 64             | OLEANOLIC-ACID  | Plant      | --      | 360      | -1.0986728439772253  |  |
| 25             | P-COUMARIC-ACID | Plant      | --      | --       |                      |  |
| 16             | P-CYMENE        | Plant      | --      | --       |                      | Chemical Constituents of Oriental Herbs (3 diff. books)  |
| 13             | PALMITIC-ACID   | Plant      | --      | --       |                      | Chemical Constituents of Oriental Herbs (3 diff. books)  |
| 4              | PHOSPHORUS      | Plant      | 2100    | 3500     | -0.04260284020040307 | Chem. & Pharm. Bull. 38: 2205.   |
| 14             | POTASSIUM       | Plant      | 32000   | 46000    | 1.687880009035257    | Chem. & Pharm. Bull. 38: 2205.   |
| 57             | ROSMARINIC-ACID | Stem       | --      | 1000     | -0.3808773454382602  | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin. |
| 57             | ROSMARINIC-ACID | Leaf       | 14800   | 25000    | 2.329304484727468    |  |
| 87             | RUTIN           | Plant      | --      | --       |                      | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses  |
| 5              | SABINENE        | Plant      | 1       | 9        | -0.4476544142890202  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.   |
| 3              | SALIGENIN       | Plant      | --      | --       |                      |  |

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|----------------|---------------|------------|---------|----------|----------------------|--|
| 9              | SINAPIC-ACID  | Plant      | --      | --       |                      | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin. |
| 7              | SUCCINIC-ACID | Plant      | --      | --       |                      | Oriental Materia Medica (three volumes by Dr. Hsu and collaborators)   |
| 14             | SULFUR        | Plant      | 3100    | 3400     | -0.19502943224091188 | Chem. & Pharm. Bull. 38: 2205.   |
| 35             | TANNIN        | Plant      | 30000   | 70000    | -0.1990770770371384  |  |
| 23             | TERPINEN-4-OL | Plant      | 1       | 8        | -0.2780031828594647  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.   |
| 8              | TYROSINE      | Plant      | --      | --       |                      | Oriental Materia Medica (three volumes by Dr. Hsu and collaborators)   |
| 89             | URSOLIC-ACID  | Plant      | 166     | 166      | -0.787639221105655   | Chemical Constituents of Oriental Herbs (3 diff. books)  |
| 3              | VALINE        | Plant      | --      | --       |                      | Oriental Materia Medica (three volumes by Dr. Hsu and collaborators)   |
| 77             | ZINC          | Plant      | 46      | 53       | 0.00844512955464756  | Chem. & Pharm. Bull. 38: 2205.   |