

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Withania somnifera*

| Activities Count | Chemical                  | Plant Part     | Low PPM | High PPM | StdDev               | Reference Citation   |
|------------------|---------------------------|----------------|---------|----------|----------------------|--|
| 5                | 4-BETA-HYDROXYWITHANOLIDE | Leaf           |         |          |                      | --   |
| 1                | 4-O-CAFFEYLQUINIC-ACID    | Leaf           |         |          |                      | --   |
| 47               | BETA-SITOSTEROL           | Leaf           |         |          |                      | --   |
| 47               | BETA-SITOSTEROL           | Tissue Culture |         |          |                      | --   |
| 47               | BETA-SITOSTEROL           | Root           | 4.0     | 200.0    | -0.27101953487278646 | --   |
| 2                | CAMPESTEROL               | Tissue Culture |         |          |                      | --   |
| 77               | CHLOROGENIC-ACID          | Leaf           |         |          |                      | --   |
| 20               | CHOLINE                   | Root           |         |          |                      | --   |
| 13               | CYSTEINE                  | Fruit          |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2                | CYSTINE                   | Fruit          |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 5                | DAUCOSTEROL               | Root           |         | 2.0      | -0.5409061526656509  | --   |
| 2                | DULCITOL                  | Root           |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 1                | HYDROXYPROLINE            | Fruit          |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 5                | ISOPELLETIERINE           | Root           |         |          |                      | --   |
| 27               | LINOLEIC-ACID             | Seed Oil       |         | 600000.0 | 0.8214578016140522   | --   |
| 27               | LINOLEIC-ACID             | Plant          |         |          |                      | --   |
| 3                | N-HENTRIACONTANE          | Plant          |         |          |                      | --   |
| 21               | NICOTINE                  | Root           |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 176              | QUERCETIN                 | Leaf           |         |          |                      | --   |

| Activities Count | Chemical        | Plant Part     | Low PPM | High PPM | StdDev              | Reference Citation  |
|------------------|-----------------|----------------|---------|----------|---------------------|---|
| 1                | QUINIC-ACID     | Leaf           |         |          |                     | --  |
| 87               | RUTIN           | Leaf           |         |          |                     | --  |
| 44               | SCOPOLETIN      | Plant          |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                            |
| 4                | SITOINDOSIDE-IX | Root           |         |          |                     | --  |
| 4                | SITOINDOSIDE-X  | Root           |         |          |                     | --  |
| 4                | SITOINDOSIDES   | Root           |         |          |                     | Hutchings, A, Scott, AH, Lewis, G, and Cunningham, A. 1996. Zulu Medicinal Plants. An inventory. University of Natal Press, Pietermaritzburg. 450 pp. |
| 2                | SOMNIFERINE     | Root           |         |          |                     | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                            |
| 5                | STARCH          | Root           |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                            |
| 8                | STEARIC-ACID    | Plant          |         |          |                     | --  |
| 12               | STIGMASTEROL    | Plant          |         |          |                     | --  |
| 12               | STIGMASTEROL    | Tissue Culture |         |          |                     | --  |
| 14               | SUCROSE         | Root           |         | 1000.0   | -1.2514078712678915 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.                            |
| 1                | TROPINE         | Root           |         |          |                     | --  |
| 3                | VISAMINE        | Root           |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                            |
| 1                | WITHACNISTIN    | Leaf           |         |          |                     | --  |
| 7                | WITHAFERIN      | Leaf           |         |          |                     | --  |
| 15               | WITHAFERIN-A    | Leaf           | 400.0   | 8600.0   |                     | --  |

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|------------------|---------------|------------|---------|----------|--------|-------------------|
| 15               | WITHAFERIN-A  | Root       |         |          |        | --                |
| 15               | WITHAFERIN-A  | Shoot      |         |          |        | --                |
| 15               | WITHAFERIN-A  | Plant      |         |          |        | --                |
| 5                | WITHANOLIDE-D | Shoot      |         |          |        | --                |
| 5                | WITHANOLIDE-D | Plant      |         |          |        | --                |
| 5                | WITHANOLIDE-D | Root       |         |          |        | --                |
| 5                | WITHANOLIDE-D | Leaf       | 500.0   | 3000.0   |        | --                |
| 3                | WITHANOLIDE-E | Shoot      |         |          |        | --                |
| 3                | WITHANOLIDE-E | Leaf       |         |          |        | --                |
| 3                | WITHASOMNINE  | Root       |         |          |        | --                |
| 3                | WITHASOMNINE  | Plant      |         |          |        | --                |