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Solanum torvum for Hypertension: a Systematic Review

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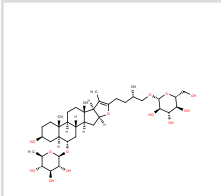
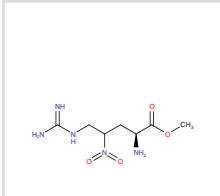
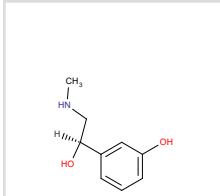
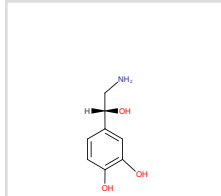
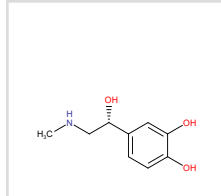
Abstract

Solanum torvum is one of the plants mentioned in “Kitab Al-Tibb Pontianak”, a historical medical manuscript which encompasses many traditional healings of Malay people for various ailments including of hypertension. This systematic review involves searching within Science Direct, SCOPUS, and PUBMED databases with the aim to find scientific evidences purporting this traditional claim. The keywords such as anti-hypertensive, angiotensin-converting enzyme (ACE) inhibitor, blood pressure, diuretic, vasodilation, *Solanum torvum*, and *S. torvum* were used with suitable Boolean operators. Sixteen research articles were finally included in this systematic review after considering some inclusions and exclusions criteria. The evidence that supported *S. torvum* use for hypertension included its capability in reducing blood pressure in normal and high fructose-induced hypertensive rats, and also its diuretic effect by increasing sodium excretion and total urinary output in normal and in nitric-oxide deprived rats, as well as the ability to inhibit ACE, the key enzyme that mediates consequential increment of blood pressure. On contrary, *S. torvum* also induced partial vasoconstriction and amplified the hypertensive effect in the nitric-oxide-deprived hypertensive rats. In conclusion, this review found scientific evidence asserting the traditional use of *S. torvum* for hypertension with some conflicting findings in some study models. Therefore, this ethnomedicinal claim warrants more scientific verification, especially on its effect on the essential hypertension model which is very common in humans but has not yet been explored. © 2023. Open access.

Author keywordsangiotensin-converting enzyme inhibitors; antihypertension; diuretics; *Solanum torvum*; systematic review**Reaxys Chemistry database information** [i](#)

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-
- 1 Mills, K.T., Stefanescu, A., He, J.
The global epidemiology of hypertension
(2020) *Nature Reviews Nephrology*, 16 (4), pp. 223-237. Cited 933 times.
<http://www.nature.com/nrneph/archive/index.html>
doi: 10.1038/s41581-019-0244-2
[View at Publisher](#)
-
- 2 Fantom, NJ, Serajuddin, U.
The World Bank's classification of countries by income
World Bank policy research working paper no. 7528. Cited 215 times.
[Accessed 2022]
<https://ssrn.com/abstract=2741183>
-
- 3 Naidu, B.M., Yusoff, M.F.M., Abdullah, S., Musa, K.I., Yaacob, N.M., Mohamad, M.S., Sahril, N., (...), Aris, T.
Factors associated with the severity of hypertension among Malaysian adults
(2019) *PLoS ONE*, 14 (1), art. no. e0207472. Cited 29 times.
<https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0207472&type=printable>
doi: 10.1371/journal.pone.0207472
[View at Publisher](#)
-
- 4 Rahmawati, R., Bajorek, B.V.
Self-medication among people living with hypertension: A review
(2017) *Family Practice*, 34 (2), pp. 147-153. Cited 24 times.
<http://fampra.oxfordjournals.org/>
doi: 10.1093/fampra/cmw137
[View at Publisher](#)
-
- 5 Chrysant, S.G., Chrysant, G.S.
Herbs Used for the Treatment of Hypertension and their Mechanism of Action
(2017) *Current Hypertension Reports*, 19 (9), art. no. 77. Cited 38 times.
www.springer.com
doi: 10.1007/s11906-017-0775-5
[View at Publisher](#)
-
- 6 Abdul Hamid, FAF, Fauzi, NW.
Perubatan melayu tradisional: Kitab Tibb Pontianak (Malay traditional medicine: Kitab Tibb Pontianak)
(2012) *J Al-Tamaddun*, 7 (1), pp. 149-162. Cited 3 times.
-
- 7 Mohan, M., Jaiswal, B.S., Kasture, S.
Effect of Solanum torvum on blood pressure and metabolic alterations in fructose hypertensive rats
(2009) *Journal of Ethnopharmacology*, 126 (1), pp. 86-89. Cited 36 times.
doi: 10.1016/j.jep.2009.08.008
[View at Publisher](#)
-
- 8 Inta, A., Trisonthi, P., Trisonthi, C.
Analysis of traditional knowledge in medicinal plants used by Yuan in Thailand
(2013) *Journal of Ethnopharmacology*, 149 (1), pp. 344-351. Cited 61 times.
doi: 10.1016/j.jep.2013.06.047
[View at Publisher](#)
-
- 9 Yang, J., Chen, W.-Y., Fu, Y., Yang, T., Luo, X.-D., Wang, Y.-H., Wang, Y.-H.
Medicinal and edible plants used by the Lhoba people in Medog County, Tibet, China
(2020) *Journal of Ethnopharmacology*, 249, art. no. 112430. Cited 24 times.
www.elsevier.com/locate/jethpharm
doi: 10.1016/j.jep.2019.112430
[View at Publisher](#)
-
- 10 Nguelefack, T.B., Mekhfi, H., Dimo, T., Afkir, S., Nguelefack-Mbuyo, E.P., Legssyer, A., Ziyat, A.
Cardiovascular and anti-platelet aggregation activities of extracts from Solanum torvum (Solanaceae) fruits in rat
(2008) *Journal of Complementary and Integrative Medicine*, 5 (1), art. no. 7. Cited 20 times.
www.degruyter.com/view/j/jcim
doi: 10.2202/1553-3840.1105
[View at Publisher](#)
-

- 11 Li, J., Zhang, L., Huang, C., Guo, F., Li, Y.
Five new cytotoxic steroidal glycosides from the fruits of *Solanum torvum*
(2014) *Fitoterapia*, 93, pp. 209-215. Cited 16 times.
doi: 10.1016/j.fitote.2014.01.009
View at Publisher
-
- 12 Panyadee, P., Balslev, H., Wangpakattanawong, P., Inta, A.
Medicinal plants in homegardens of four ethnic groups in Thailand (Open Access)
(2019) *Journal of Ethnopharmacology*, 239, art. no. 111927. Cited 26 times.
www.elsevier.com/locate/jethpharm
doi: 10.1016/j.jep.2019.111927
View at Publisher
-
- 13 Picking, D., Younger, N., Mitchell, S., Delgoda, R.
The prevalence of herbal medicine home use and concomitant use with pharmaceutical medicines in Jamaica
(2011) *Journal of Ethnopharmacology*, 137 (1), pp. 305-311. Cited 73 times.
doi: 10.1016/j.jep.2011.05.025
View at Publisher
-
- 14 Ong, H.C., Nordiana, M.
Malay ethno-medico botany in Machang, Kelantan, Malaysia
(1999) *Fitoterapia*, 70 (5), pp. 502-513. Cited 147 times.
doi: 10.1016/S0367-326X(99)00077-5
View at Publisher
-
- 15 Sivapriya, M., Leela, S.
Isolation and purification of a novel antioxidant protein from the water extract of Sundakai (*Solanum torvum*) seeds
(2007) *Food Chemistry*, 104 (2), pp. 510-517. Cited 83 times.
doi: 10.1016/j.foodchem.2006.11.060
View at Publisher
-
- 16 Agrawal, AD, Bajpei, PS, Patil, AA, Bavaskar, SR.
Solanum torvum Sw.-a phytopharmacological review
(2010) *Der Pharm Lett*, 2 (4), pp. 403-407. Cited 21 times.
-
- 17 Yousaf, Z., Wang, Y., Baydoun, E.
Phytochemistry and pharmacological studies on *Solanum torvum* Swartz
(2013) *Journal of Applied Pharmaceutical Science*, 3 (4), pp. 152-160. Cited 35 times.
http://www.japsonline.com/admin/php/uploads/868_pdf.pdf
doi: 10.7324/JAPS.2013.3428
View at Publisher
-
- 18 Darkwah, W.K., Koomson, D.A., Miwornunyuie, N., Nkoom, M., Puplampu, J.B.
Review: phytochemistry and medicinal properties of *Solanum torvum* fruits
(2020) *All Life*, 13 (1), pp. 498-506. Cited 9 times.
<https://www.tandfonline.com/loi/tfls21>
doi: 10.1080/26895293.2020.1817799
View at Publisher
-
- 19 *Checklist for analytical cross sectional studies*. Cited 14 times.
[Accessed 2022]
https://jbi.global/sites/default/files/2019-05/JBI_Critical_Appraisal_Checklist_for_Analytical_Cross_Sectional_Studies2017_0.pdf
-
- 20 Esakkimuthu, S., Mutheeswaran, S., Arvinth, S., Paulraj, M.G., Pandikumar, P., Ignacimuthu, S.
Quantitative ethnomedicinal survey of medicinal plants given for cardiometabolic diseases by the non-institutionally trained siddha practitioners of Tiruvallur district, Tamil Nadu, India
(2016) *Journal of Ethnopharmacology*, 186, pp. 329-342. Cited 18 times.
www.elsevier.com/locate/jethpharm
doi: 10.1016/j.jep.2016.04.017
View at Publisher
-
- 21 Lu, Y.-Y., Luo, J.-G., Kong, L.-Y.
Chemical Constituents from *Solanum torvum*
(2011) *Chinese Journal of Natural Medicines*, 9 (1), pp. 30-32. Cited 19 times.
http://www.elsevier.com/wps/find/journaldescription.cws_home/719667/description#description
doi: 10.1016/S1875-5364(11)60015-0
View at Publisher
-
- 22 Mahmood, U., Shukla, Y.N., Thakur, R.S.
Non-alkaloidal constituents from *Solanum torvum* leaves (Open Access)
(1983) *Phytochemistry*, 22 (1), pp. 167-169. Cited 31 times.
doi: 10.1016/S0031-9422(00)80080-1
View at Publisher