

## References

### Echinacea

- Mullins RJ. Echinacea-associated anaphylaxis. *Med J Aust* 1998;168:170-1. [View abstract](#) **638**
- Mullins RJ. Allergic reactions to Echinacea. *J Allergy Clin Immunol* 2000;104:S340-341 (Abstract 1003). **1358**
- Brinkeborn RM, Shah DV, Degenring FH. Echinaforce and other Echinacea fresh plant preparations in the treatment of the common cold. A randomized, placebo controlled, double-blind clinical trial. *Phytomedicine* 1999;6:1-6.. [View abstract](#) **1412**
- Mengs U, Clare CB, Poiley JA. Toxicity of Echinacea purpurea. Acute, subacute and genotoxicity studies. *Arzneimittelforschung* 1991;41:1076-81.[View abstract](#) **1413**
- Awang DVC, Kindack DG. Echinacea. *Can Pharm J* 1991; 124:512-6. **1414**
- Chavez ML, Chavez PI. Echinacea. *Hosp Pharm* 1998;33:180-8. **3279**
- Gunning K. Echinacea in the treatment and prevention of upper respiratory tract infections. *West J Med* 1999;171:198-200. [View abstract](#) **3280**
- Barrett B, Vohmann M, Calabrese C. Echinacea for upper respiratory infection. *J Fam Pract* 1999;48:628-35. [View abstract](#) **3281**
- Grimm W, Muller HH. A randomized controlled trial of the effect of fluid extract of Echinacea purpurea on the incidence and severity of colds and respiratory infections. *Am J Med* 1999;106:138-43. [View abstract](#) **4239**
- Ondrizek RR, Chan PJ, Patton WC, King A. Inhibition of human sperm motility by specific herbs used in alternative medicine. *J Assist Reprod Genet* 1999;16:87-91. [View abstract](#) **4240**
- Ondrizek RR, Chan PJ, Patton WC, King A. An alternative medicine study of herbal effects on the penetration of zona-free hamster oocytes and the integrity of sperm deoxyribonucleic acid. *Fertil Steril* 1999;71:517-22. [View abstract](#) **4989**
- Taylor JA, Weber W, Standish L, et al. Efficacy and safety of echinacea in treating upper respiratory tract infections in children: a randomized controlled trial. *JAMA* 2003;290:2824-30.. [View abstract](#) **6384**
- Lindenmuth GF, Lindenmuth EB. The efficacy of echinacea compound herbal tea preparation on the severity and duration of upper respiratory and flu symptoms: a randomized, double-blind, placebo-controlled study. *J Altern Complement Med* 2000;6:327-34. [View abstract](#) **6386**
- Melchart D, Walther E, Linde K, et al. Echinacea root extracts for the prevention of upper respiratory tract infections: a double-blind, placebo-controlled randomized trial. *Arch Fam Med* 1998;7:541-5. [View abstract](#) **6387**
- Parnham MJ. Benefit-risk assessment of the squeezed sap of the purple coneflower (Echinacea purpurea) for long-term oral immunostimulation. *Phytomedicine* 1996;3:95-102. **6388**
- Luetigg B, Steinmuller C, Gifford GE, et al. Macrophage activation by the polysaccharide arabinogalactan isolated from plant cell cultures of Echinacea purpurea. *J Natl Cancer Inst* 1989;81:669-75. [View abstract](#) **6389**

- Stimpel M, Proksch A, Wagner H, et al. Macrophage activation and induction of macrophage cytotoxicity by purified polysaccharide fractions from the plant Echinacea purpurea. *Infect Immun* 1984;46:845-9. [View abstract](#). **6390**
- Binns SE, Purgina B, Bergeron C. Light-mediated antifungal activity of Echinacea extracts. *Plant Med* 2000;66:241-4. [View abstract](#). **6391**
- Perry NB, van Klink JW, Burgess EJ, et al. Alkamide levels in Echinacea purpurea: effects of processing, drying and storage. *Planta Med* 2000;66:54-6. [View abstract](#). **6417**
- Giles JT, Palat CT III, Chien SH, et al. Evaluation of Echinacea for treatment of the common cold. *Pharmacother* 2000;20:690-7. [View abstract](#). **6418**
- Pepping J. Echinacea. *Am J Health Syst Pharm* 1999;56:121-3. [View abstract](#). **6450**
- Budzinski JW, Foster BC, Vandenhoek S, Arnason JT. An in vitro evaluation of human cytochrome P450 3A4 inhibition by selected commercial herbal extracts and tinctures. *Phytomedicine* 2000;7:273-82. [View abstract](#). **7056**
- Gallo M, Sarkar M, Au W, et al. Pregnancy outcome following gestational exposure to echinacea: A prospective controlled study. *Arch Intern Med* 2000;160:3141-3. [View abstract](#). **7057**
- Soon SL, Crawford RI. Recurrent erythema nodosum associated with echinacea herbal therapy. *J Am Acad Dermatol* 2001;44:298-9. [View abstract](#). **7087**
- Vonau B, Chard S, Mandalia S, et al. Does the extract of the plant Echinacea purpurea influence the clinical course of recurrent genital herpes? *Int J STD AIDS* 2001;12:154-8. [View abstract](#). **8225**
- Mullins RJ, Heddle R. Adverse reactions associated with echinacea: the Australian experience. *Ann Allergy Asthma Immunol* 2002;88:42-51. [View abstract](#). **8227**
- Facino RM, Carini M, Aldini G, et al. Echinacoside and caffeoyl conjugates protect collagen from free radical-induced degradation: a potential use of echinacea extracts in the prevention of skin photodamage. *Planta Med* 1995;61:510-4. [View abstract](#). **8228**
- Turner RB, Riker DK, Gangemi JD. Ineffectiveness of echinacea for prevention of experimental rhinovirus colds. *Antimicrob Agents Chemother* 2000;44:1708-9. [View abstract](#). **8523**
- Melchart D, Clemm C, Weber B, et al. Polysaccharides isolated from Echinacea purpurea herba cell cultures to counteract undesired effects of chemotherapy--a pilot study. *Phytother Res* 2002;16:138-42.. [View abstract](#). **10319**
- Logan JL, Ahmed J. Critical hypokalemic renal tubular acidosis due to Sjogren's syndrome: association with the purported immune stimulant echinacea. *Clin Rheumatol* 2003;22:158-9. [View abstract](#). **10320**
- Hoheisel O, Sandberg M, Bertram S, et al. Echinagard treatment shortens the course of the common cold: a double blind, placebo-controlled clinical trial. *Eur J Clin Res* 1997;9:261-268. **10797**
- Schwarz E, Metzler J, Diedrich JP, et al. Oral administration of freshly expressed juice of Echinacea purpurea herbs fail to stimulate the nonspecific immune response in healthy young men: results of a double-blind, placebo-controlled crossover study. *J Immunother* 2002;25:413-20.. [View abstract](#). **10798**
- Tragni E, Tubaro A, Melis S, Galli CL. Evidence from two classic irritation tests for an anti-inflammatory action of a natural extract, Echinacina B. *Food Chem Toxicol* 1985;23:317-9.. [View abstract](#).

- 10799
- Muller-Jakic B, Breu W, Probstle A, et al. In vitro inhibition of cyclooxygenase and 5-lipoxygenase by alkamides from Echinacea and Achillea species. *Planta Med* 1994;60:37-40.. [View abstract.](#)
- 10800
- Barrett BP, Brown RL, Locken K, et al. Treatment of the common cold with unrefined echinacea. A randomized, double-blind, placebo-controlled trial. *Ann Intern Med* 2002;137:939-46.. [View abstract.](#)
- 10802
- Schulzen B, Bulitta M, Ballering-Bruhl B, et al. Efficacy of Echinacea purpurea in patients with a common cold. A placebo-controlled, randomised, double-blind clinical trial. *Arzneimittelforschung* 2001;51:563-8.. [View abstract.](#)
- 11026
- Yale SH, Glurich I. Analysis of the inhibitory potential of Ginkgo biloba, Echinacea purpurea, and Serenoa repens on the metabolic activity of cytochrome P450 3A4, 2D6, and 2C9. *J Altern Complement Med* 2005;11:433-9. [View abstract.](#)
- 11970
- Yale SH, Liu K. Echinacea purpurea therapy for the treatment of the common cold: a randomized, double-blind, placebo-controlled clinical trial. *Arch Intern Med* 2004;164:1237-41. [View abstract.](#)
- 12155
- Gorski JC, Huang S, Zaheer NA, et al. The effect of echinacea (Echinacea purpurea root) on cytochrome P450 activity in vivo. *Clin Pharmacol Ther* 2003;73 (Abstract PDII-A-8):P94. [View abstract.](#)
- 12171
- Lee AN, Werth VP. Activation of autoimmunity following use of immunostimulatory herbal supplements. *Arch Dermatol* 2004;140:723-7. [View abstract.](#)
- 12354
- Sperber SJ, Shah LP, Gilbert RD, et al. Echinacea purpurea for prevention of experimental rhinovirus colds. *Clin Infect Dis* 2004;38:1367-71. [View abstract.](#)
- 12355
- Goel V, Lovlin R, Barton R, et al. Efficacy of a standardized echinacea preparation (Echinilin) for the treatment of the common cold: a randomized, double-blind, placebo-controlled trial. *J Clin Pharm Ther* 2004;29:75-83. [View abstract.](#)
- 12638
- Gilroy CM, Steiner JF, Byers T, et al. Echinacea and truth in labeling. *Arch Intern Med* 2003;163:699-704. [View abstract.](#)
- 12639
- Barrett B. Medicinal properties of Echinacea: a critical review. *Phytomedicine* 2003;10:66-86. [View abstract.](#)
- 13417
- Speroni E, Govoni P, Guzzardi S, et al. Anti-inflammatory and cicatrizing activity of Echinacea pallida Nutt. root extract. *J Ethnopharmacol* 2002;79:265-72. [View abstract.](#)
- 13418
- Huntley AL, Thompson Coon J, Ernst E. The safety of herbal medicinal products derived from Echinacea species: a systematic review. *Drug Saf* 2005;28:387-400. [View abstract.](#)
- 13419
- Turner RB, Bauer R, Woelkart K, et al. An evaluation of Echinacea angustifolia in experimental rhinovirus infections. *N Engl J Med* 2005;353:341-8. [View abstract.](#)
- 13422
- Caruso TJ, Gwaltney JM Jr. Treatment of the common cold with echinacea: a structured review. *Clin Infect Dis* 2005;40:807-10. [View abstract.](#)
- 13712
- Gurley BJ, Gardner SF, Hubbard MA, et al. In vivo assessment of botanical supplementation on human cytochrome P450 phenotypes: Citrus aurantium, Echinacea purpurea, milk thistle, and saw palmetto. *Clin Pharmacol Ther* 2004;76:428-40.. [View abstract.](#)
- 14419

- Linde K, Barrett B, Wolkart K, et al. Echinacea for preventing and treating the common cold. Cochrane Database Syst Rev 2006;(1):CD000530. [View abstract](#). **15123**
- Perri D, Dugoua JJ, Mills E, Koren G. Safety and efficacy of echinacea (Echinacea augustifolia, e. purpurea and e. pallida) during pregnancy and lactation. Can J Clin Pharmacol 2006;13:e262-7. [View abstract](#). **17518**
- Kocaman O, Hulagu S, Senturk O. Echinacea-induced severe acute hepatitis with features of cholestatic autoimmune hepatitis. Eur J Intern Med 2008;19:148. [View abstract](#). **17519**
- Barrett B, Brown R, Rakel D, et al. Echinacea for treating the common cold: a randomized trial. Ann Intern Med 2010;153:769-77. [View abstract](#). **17520**
- Shah SA, Sander S, White CM, et al. Evaluation of echinacea for the prevention and treatment of the common cold: a meta-analysis. Lancet Infect Dis 2007;7:473-80. [View abstract](#). **17521**
- O'Neil J, Hughes S, Lourie A, Zweifler J. Effects of echinacea on the frequency of upper respiratory tract symptoms: a randomized, double-blind, placebo-controlled trial. Ann Allergy Asthma Immunol 2008;100:384-8. [View abstract](#). **17522**
- Schoop R, Klein P, Suter A, Johnston SL. Echinacea in the prevention of induced rhinovirus colds: a meta-analysis. Clin Ther 2006;28:174-83. [View abstract](#). **18207**
- Press Release: Echinacea herbal products should not be used in children under 12 years old. Medicines and Healthcare Products Regulatory Agency (UK). August 20, 2012. Available at: www.mhra.gov.uk/NewsCentre/Pressreleases/CON180627. (Accessed 21 October 2012) **18225**
- Jawad M, Schoop R, Suter A, et al. Safety and efficacy profile of Echinacea purpurea to prevent common cold episodes: A randomized, double-blind, placebo-controlled trial. Evid Based Complement Alternat Med 2012;2012:841315. Epub 2012 Sep 16. [View abstract](#). **18226**
- Di Pierro F, Rapacioli G, Ferrara T, Togni S. Use of a standardized extract from Echinacea angustifolia (Polinacea) for the prevention of respiratory tract infections. Altern Med Rev 2012;17:36-41. [View abstract](#). **20059**
- Barrett B, Brown R, Rakel D, Rabago D, et al. Placebo effects and the common cold: a randomized controlled trial. Ann Fam Med 2011;9:312-22. [View abstract](#). **20062**
- Goel V, Lovlin R, Chang C, et al. A proprietary extract from the echinacea plant (Echinacea purpurea) enhances systemic immune response during a common cold. Phytother Res 2005;19:689-94. [View abstract](#). **20063**
- Wahl RA, Aldous MB, Worden KA, et al. Echinacea purpurea and osteopathic manipulative treatment in children with recurrent otitis media: a randomized controlled trial. BMC Complement Altern Med 2008;8:56. [View abstract](#). **20064**
- Haller J, Freund, TF, Pelczer, KG, et al. The anxiolytic potential and psychotropic side effects of an echinacea preparation in laboratory animals and healthy volunteers. Phytother Res. 2013;27:54-61. [View abstract](#). **20066**
- Whitehead MT, Martin TD, Scheett TP, et al. Running economy and maximal oxygen consumption after 4 weeks of oral Echinacea supplementation. J Strength Cond Res 2012;26:1928-33. [View abstract](#). **20068**
- Samuels N, Saffer A, Wexler ID, et al. Localized reduction of gingival inflammation using site-specific therapy with a topical gingival patch. J Clin Dent. 2012;23:64-7. [View abstract](#). **20069**

Samuels N, Grbic JT, Saffer AJ, et al. Effect of an herbal mouth rinse in preventing periodontal inflammation in an experimental gingivitis model: a pilot study. Compend.Contin.Educ.Dent. 2012;33:204-11. [View abstract](#).

20070

Grbic J, Wexler I, Celenti R, et al. A phase II trial of a transmucosal herbal patch for the treatment of gingivitis. J Am Dent.Assoc. 2011;142:1168-75. [View abstract](#).

20071

Cassano N, Ferrari A, Fai D, et al. Oral supplementation with a nutraceutical containing Echinacea, methionine and antioxidant/immunostimulating compounds in patients with cutaneous viral warts. G.Ital Dermatol Venereol. 2011;146:191-95. [View abstract](#).

20072

Bockhorst H, Gollnick N, Guran S, et al. [Therapy of herpes simplex in practice. Report on the treatment of herpes simplex labialis with Esberitox]. ZFA.(Stuttgart.) 11-20-1982;58:1795-98. [View abstract](#).

20073

Mistrangelo M, Cornaglia S, Pizzio M, et al. Immunostimulation to reduce recurrence after surgery for anal condyloma acuminata: a prospective randomized controlled trial. Colorectal Dis 2010;12:799-803. [View abstract](#).

20075

Bendel R, Bendel V, Renner K, et al. [Additional treatment with Esberitox N in patients with chemo- radiotherapy treatment of advanced breast cancer]. Onkologie. 1989;12 Suppl 3:32-8. [View abstract](#).

20076

Bendel R, Bendel V, Renner K, et al. [Supplementary treatment with Esberitox of female patients undergoing curative adjuvant irradiation following breast cancer]. Strahlenther.Onkol. 1988;164:278-83. [View abstract](#).

20077

Schapowal A, Berger D, Klein P, et al. Echinacea/sage or chlorhexidine/lidocaine for treating acute sore throats: a randomized double-blind trial. Eur.J Med Res 9-1-2009;14:406-12. [View abstract](#).

20078

von Blumroeder, W. O. [Angina lacunaris. An investigation on how to stimulate the endogenous defense system] (German). Z Allg Med 1985;61:271-273.

20079

Neri PG, Stagni R, Filippello M, et al. Oral Echinacea purpurea extract in low-grade, steroid-dependent, autoimmune idiopathic uveitis: a pilot study. J Ocul.Pharmacol Ther 2006;22:431-36. [View abstract](#).

20080

Zedan H, Hofny ER, and Ismail SA. Propolis as an alternative treatment for cutaneous warts. Int.J Dermatol 2009;48:1246-49. [View abstract](#).

20082

Bossaer JB and Odle BL. Probable etoposide interaction with Echinacea. J.Diet.Suppl 2012;9:90-5. [View abstract](#).

20083

Abdul MI, Jiang X, Williams KM, et al. Pharmacokinetic and pharmacodynamic interactions of echinacea and policosanol with warfarin in healthy subjects. Br J Clin.Pharmacol. 2010;69:508-15. [View abstract](#).

48529

Hu, C. and Kitts, D. D. Studies on the antioxidant activity of Echinacea root extract. J Agric Food Chem 2000;48(5):1466-1472. [View abstract](#).

48533

Kemp, D. E. and Franco, K. N. Possible leukopenia associated with long-term use of echinacea. J Am Board Fam.Pract. 2002;15(5):417-419. [View abstract](#).

48560

Woelkart, K., Koidl, C., Grisold, A., Gangemi, J. D., Turner, R. B., Marth, E., and Bauer, R. Bioavailability and pharmacokinetics of alkamides from the roots of Echinacea angustifolia in humans. J Clin Pharmacol 2005;45(6):683-689. [View abstract](#).

**48572**

Liasos, G., Elefsiniotis, I., Todorova, R., and Moulakakis, A. Severe thrombotic thrombocytopenic purpura (TTP) induced or exacerbated by the immunostimulatory herb Echinacea. *Am J Hematol.* 2006;81(3):224. [View abstract](#).

**48576**

Woelkart, K., Marth, E., Suter, A., Schoop, R., Raggam, R. B., Koidl, C., Kleinhappl, B., and Bauer, R. Bioavailability and pharmacokinetics of Echinacea purpurea preparations and their interaction with the immune system. *Int J Clin Pharmacol Ther* 2006;44(9):401-408. [View abstract](#).

**48609**

Hou, C. C., Chen, C. H., Yang, N. S., Chen, Y. P., Lo, C. P., Wang, S. Y., Tien, Y. J., Tsai, P. W., and Shyur, L. F. Comparative metabolomics approach coupled with cell- and gene-based assays for species classification and anti-inflammatory bioactivity validation of Echinacea plants. *J Nutr.Biochem.* 2010;21(11):1045-1059. [View abstract](#).

**48611**

Toselli, F., Matthias, A., Bone, K. M., Gillam, E. M., and Lehmann, R. P. Metabolism of the major Echinacea alkylamide N-isobutyldodeca-2E,4E,8Z,10Z-tetraenamide by human recombinant cytochrome P450 enzymes and human liver microsomes. *Phytother.Res* 2010;24(8):1195-1201. [View abstract](#).

**48615**

Wacker, A. and Hilbig, W. [Virus-inhibition by echinacea purpurea (author's transl)]. *Planta Med* 1978;33(1):89-102. [View abstract](#).

**48617**

Luo, Y., Pan, J., Pan, Y., Han, Z., and Zhong, R. Evaluation of the protective effects of Chinese herbs against biomolecule damage induced by peroxynitrite. *Biosci.Biotechnol.Biochem.* 2010;74(7):1350-1354. [View abstract](#).

**48618**

Penzak, S. R., Robertson, S. M., Hunt, J. D., Chairez, C., Malati, C. Y., Alfaro, R. M., Stevenson, J. M., and Kovacs, J. A. Echinacea purpurea significantly induces cytochrome P450 3A activity but does not alter lopinavir-ritonavir exposure in healthy subjects. *Pharmacotherapy* 2010;30(8):797-805. [View abstract](#).

**48620**

Sharma, M., Schoop, R., Suter, A., and Hudson, J. B. The potential use of Echinacea in acne: control of Propionibacterium acnes growth and inflammation. *Phytother.Res* 2011;25(4):517-521. [View abstract](#).

**48622**

Saluk-Juszczak, J., Pawlaczyk, I., Olas, B., Kolodziejczyk, J., Ponczek, M., Nowak, P., Tsirigotis-Woloszczak, M., Wachowicz, B., and Gancarz, R. The effect of polyphenolic-polysaccharide conjugates from selected medicinal plants of Asteraceae family on the peroxynitrite-induced changes in blood platelet proteins. *Int.J Biol.Macromol.* 12-1-2010;47(5):700-705. [View abstract](#).

**48623**

Maskatia, Z. K. and Baker, K. Hypereosinophilia associated with echinacea use. *South.Med J* 2010;103(11):1173-1174. [View abstract](#).

**48629**

Bensch, K., Tiralongo, J., Schmidt, K., Matthias, A., Bone, K. M., Lehmann, R., and Tiralongo, E. Investigations into the antiadhesive activity of herbal extracts against *Campylobacter jejuni*. *Phytother.Res* 2011;25(8):1125-1132. [View abstract](#).

**48662**

Steinmuller, C., Roesler, J., Grottrup, E., Franke, G., Wagner, H., and Lohmann-Matthes, M. L. Polysaccharides isolated from plant cell cultures of Echinacea purpurea enhance the resistance of immunosuppressed mice against systemic infections with *Candida albicans* and *Listeria monocytogenes*. *Int.J Immunopharmacol.* 1993;15(5):605-614. [View abstract](#).

**48664**

Thompson, K. D. Antiviral activity of Viracea against acyclovir susceptible and acyclovir resistant strains of herpes simplex virus. *Antiviral Res* 1998;39(1):55-61. [View abstract](#).

**48680**

- Parnham MJ. Benefit-risk assessment of the squeezed sap of the purple coneflower (*Echinacea purpurea*) for long-term oral immunostimulation. *Phytomed* 1996;3:95-102. **88162**
- Schroder-Aasen T, Molden G, Nilsen OG. In vitro inhibition of CYP3A4 by the multiherbal commercial product *Sambucus Force* and its main constituents *Echinacea purpurea* and *Sambucus nigra*. *Phytother Res* 2012;26(11):1606-13. [View abstract](#). **88163**
- Moltó J, Valle M, Miranda C, et al. Herb-drug interaction between *Echinacea purpurea* and darunavir-ritonavir in HIV-infected patients. *Antimicrob Agents Chemother* 2011;55(1):326-30. [View abstract](#). **88164**
- Goey AK, Meijerman I, Rosing H, et al. The effect of *Echinacea purpurea* on the pharmacokinetics of docetaxel. *Br J Clin Pharmacol* 2013;76(3):467-74. [View abstract](#). **88165**
- Moltó J, Valle M, Miranda C, et al. Herb-drug interaction between *Echinacea purpurea* and etravirine in HIV-infected patients. *Antimicrob Agents Chemother* 2012;56(10):5328-31. [View abstract](#). **88167**
- Hansen TS, Nilsen OG. In vitro CYP3A4 metabolism: inhibition by *Echinacea purpurea* and choice of substrate for the evaluation of herbal inhibition. *Basic Clin Pharmacol Toxicol* 2008;103:445-9. [View abstract](#). **91528**
- Gabranis I, Koufakis T1, Papakrivos I, Batala S. *Echinacea*-associated acute cholestatic hepatitis. *J Postgrad Med*. 2015;61(3):211-2. [View abstract](#).