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# Echinacea

Revised: December 3, 2018.

CASRN: 84696-11-7; 90028-20-9; 97281-15-7

## Drug Levels and Effects

### Summary of Use during Lactation

Echinacea species (Echinacea angustifolia, Echinacea purpurea, Echinacea pallida) contain high molecular weight polysaccharides (e.g., heteroxylan, arabinogalactan) and lower molecular weight compounds (e.g., alkylamides, caffeoyl conjugates such as cichoric acid and echinacosides), but no single chemical is known to be responsible for echinacea's biological activity. Some products have been standardized based on echinacoside, and others on cichoric acid. Echinacea has no specific uses during breastfeeding, but is commonly used orally to treat or prevent upper respiratory infections. It is also used topically to treat skin infections. Excretion of some of the purportedly active alkamides was found in breastmilk in one mother. No data exist on the safety and efficacy of echinacea in nursing mothers or infants. In general, echinacea is well tolerated with gastrointestinal upset, diarrhea and constipation, skin rash and rarely allergic reactions reported. It may also alter the metabolism of some dugs metabolized by the P450 enzyme system. Some sources indicate that echinacea is safe in recommended doses,[1] while others recommend avoiding it during breastfeeding because of the lack of published safety data.

Dietary supplements do not require extensive pre-marketing approval from the U.S. Food and Drug Administration. Manufacturers are responsible to ensure the safety, but do not need to *prove* the safety and effectiveness of dietary supplements before they are marketed. Dietary supplements may contain multiple ingredients, and differences are often found between labeled and actual ingredients or their amounts. A manufacturer may contract with an independent organization to verify the quality of a product or its ingredients, but that does *not* certify the safety or effectiveness of a product. Because of the above issues, clinical testing results on one product may not be applicable to other products. More detailed information about dietary supplements is available elsewhere on the LactMed Web site.

### Drug Levels

*Maternal Levels.* One woman was given 4 Echinacea Premium tablets (each containing the equivalent of 675 mg of Echinacea purpurea root and 600 mg of Echinacea angustifolia root made from the dried ethanolic extracts). The total dose of N-isobutyldodeca-2E,4E,8Z,10E/Z-tetraenamide alkamides was 13.1 mg. The alkamides were

present in breastmilk between 1 and 4 hours after ingestion in concentrations similar to those reported in the blood with the same dose of the product.[2] Further details were not present in the abstract.

*Infant Levels.* Relevant published information was not found as of the revision date.

## Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

## Effects on Lactation and Breastmilk

Relevant published information was not found as of the revision date.

## References

1. Perri D, Dugoua JJ, Mills E, Koren G. Safety and efficacy of echinacea (Echinacea augustafolia, E. purpurea and E. pallida) during pregnancy and lactation. Can J Clin Pharmacol. 2006;13:e262-7. PubMed PMID: 17085774.
2. Matthias A, Merika H, Addison RS et al. Bioavailability of Echinacea alkamides in human breast milk. Planta Med. 2008;74:921. Abstract. DOI: 10.1055/s-002-12952.

# Substance Identification

## Substance Name

Echinacea

## Scientific Name

Echinacea angustifolia; Echinacea purpurea; Echinacea pallida

## CAS Registry Number

84696-11-7; 90028-20-9; 97281-15-7

## Drug Class

Breast Feeding

Lactation

Complementary Therapies

Phytotherapy

Plants, Medicinal