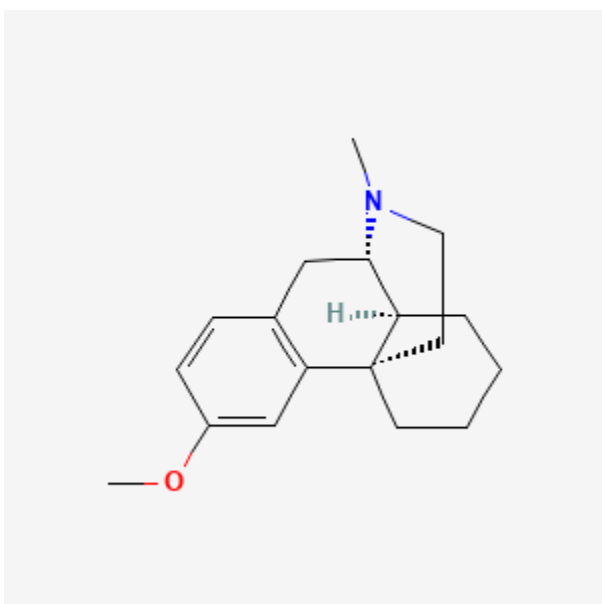




Dextromethorphan

Revised: December 15, 2023.

CASRN: 125-71-3



Drug Levels and Effects

Summary of Use during Lactation

The amounts of dextromethorphan and its active metabolite in breastmilk are very low and are not expected to affect the nursing infant. It is best to avoid the use of products with a high alcohol content while nursing.

Drug Levels

Dextromethorphan is metabolized to its active metabolite of dextrorphan by CYP2D6. Dextrorphan is further metabolized to dextrorphan glucuronide by UGT2B.

Maternal Levels. Twenty nursing mothers who were extensive metabolizers of CYP2D6 donated a blood sample and completely emptied one breast 2 hours after a single oral dose of dextromethorphan 30 mg. All mothers

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were at least 3 months postpartum and subjects who were poor, intermediate, or ultra-rapid metabolizers were excluded from the study. The average milk concentration of dextromethorphan at the presumed peak of 2 hours after the dose was 2.5 mcg/L (95% CI 1.5 to 3.9 mcg/L). The average milk concentration of the active metabolite dextrorphan at that time was 14 mcg/L (95% CI 10.7 to 17.9 mcg/L). These values translated to average “worst-case” daily infant dosages of 0.33 mcg/kg and 1.8 mcg/kg, and relative infant dosages of 0.07% and 0.41% for dextromethorphan and dextrorphan, respectively. The authors used published values of serum concentrations after a typical 60 mg twice daily dosage regimen to estimate average steady-state relative infant dosages of 0.04% and 0.07% for dextromethorphan and dextrorphan, respectively.[1] The potential contribution of dextrorphan glucuronide to infant dosage in neonates, who can deconjugate glucuronides some compounds, was not estimated.

Eight women who were given dextromethorphan (dose not specified) following a full-term cesarean section delivery provided milk samples at 4 to 6 hours after their third dose. The authors calculated median estimated relative infant doses to be 0.239% for dextromethorphan and 0.288% for its major active metabolite, dextrorphan.[2]

Infant Levels. Blood samples were obtained at an unspecified time from 8 breastfed infants whose mothers were given dextromethorphan (dose not specified) following a full-term cesarean section delivery. Only one of the 8 infants had a detectable plasma concentration of dextromethorphan. This infant’s mother had a much higher milk level of dextromethorphan than the other 7 women.[2]

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. Shum S, Yadav A, Fay E, et al. Infant dextromethorphan and dextrorphan exposure via breast milk from mothers who are CYP2D6 extensive metabolizers. *J Clin Pharmacol* 2022;62:747-55. PubMed PMID: 34889461.
2. Lieberman D, O'Brien D, Meyers R, et al. Assessment of dextromethorphan concentration in human breast milk. *Am J Obstet Gynecol* 2023;228:S119. doi:10.1016/j.ajog.2022.11.242

Substance Identification

Substance Name

Dextromethorphan

CAS Registry Number

125-71-3

Drug Class

Breast Feeding

Lactation

Milk, Human

Antitussive Agents