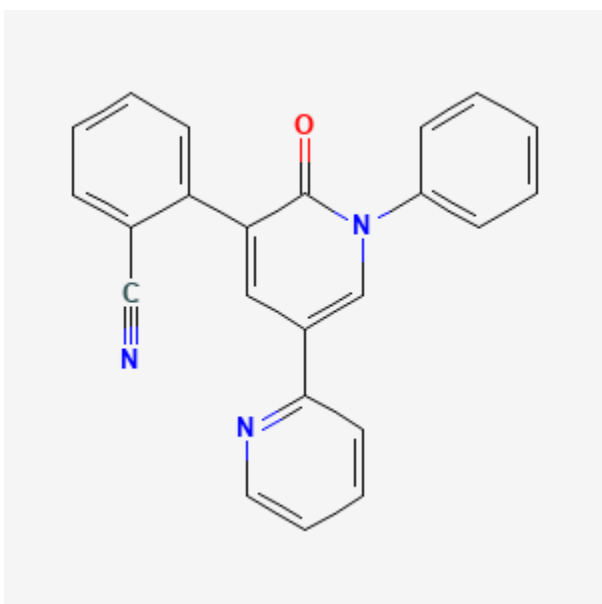




Perampanel

Revised: December 15, 2023.

CASRN: 380917-97-5



Drug Levels and Effects

Summary of Use during Lactation

A minimal amount of information indicates that perampanel milk levels are quite low. If perampanel is required by the mother, it is not a reason to discontinue breastfeeding, but monitor the infant for drowsiness, agitation, adequate weight gain, and developmental milestones, especially in younger, exclusively breastfed infants and when using combinations of drugs.

Drug Levels

In published reports of anticonvulsant use during breastfeeding, most women were taking a combination of anticonvulsants. Some other anticonvulsants (e.g., phenytoin, carbamazepine) stimulate the metabolism of other

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drugs including anticonvulsants, whereas others (e.g., valproic acid) inhibit the metabolism of other drugs. Therefore, the relationship of the maternal dosage to the concentration in breastmilk can be quite variable, making calculation of the weight-adjusted percentage of maternal dosage less meaningful than for other drugs in this database.

Maternal Levels. A mother was taking perampanel 8 mg daily as well as lacosamide 200 mg twice daily and brivaracetam 100 mg twice daily. Her milk perampanel levels were 0.31 micromoles/L (108 mcg/L) on day 5 postpartum 12 hours after the previous dose and 0.15 micromoles/L (52 mcg/L) on week 5 postpartum 13 hours after the previous dose.[1]

Two breastfeeding women who were taking perampanel 4 mg daily plus lamotrigine had perampanel levels measured in their milk. One woman had a milk level of 0.06 mg/L at 3 days postpartum. The other woman had an undetectable (<0.01 mg/L) milk level at 4 days postpartum.[2]

Infant Levels. A mother was taking perampanel 8 mg daily as well as lacosamide 200 mg twice daily and brivaracetam 100 mg twice daily. Her infant was exclusively breastfed and had serum perampanel concentration of 0.23 micromoles/L (80 mcg/L) on day 1, 0.49 micromoles/L (171 mcg/L) on day 5, and 0.23 micromoles/L (80 mcg/L) in week 5 postpartum, which are near the lower end of the therapeutic range of 0.25 micromoles/L. At week 11 postpartum, the infant was partially breastfed and perampanel was undetectable (<0.15 micromoles/L; <52 mcg/L) in the infant's serum.[1]

One breastfeeding mother taking perampanel 4 mg daily plus lamotrigine had perampanel measured in the serum of her and her infant. Her infant had a serum level of 0.16 mg/L at 4 days postpartum, and an infant-to-maternal serum concentration ratio of 0.36 at 4 days postpartum.[2]

Effects in Breastfed Infants

An infant was exclusively breastfed by a mother taking perampanel, brivaracetam and lacosamide for 6 weeks, then partially breastfed. The infant did not exhibit reduced wakefulness or feeding problems. At one year of age, the mother reported normal development.[1]

Effects on Lactation and Breastmilk

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

Alternate Drugs to Consider

(Seizure Disorder) Carbamazepine, Divalproex, Gabapentin, Lamotrigine, Oxcarbazepine, Phenytoin, Valproic Acid

References

1. Landmark CJ, Rektorli L, Burns ML, et al. Pharmacokinetic data on brivaracetam, lacosamide and perampanel during pregnancy and lactation. *Epileptic Disord* 2021;23:426-31. PubMed PMID: 33935028.
2. Kacirova I, Urinovska R, Grundmann M. Therapeutic monitoring of lacosamide, perampanel, and zonisamide during breastfeeding. *Epilepsy Res* 2023;199:107264. PubMed PMID: 38041996.

Substance Identification

Substance Name

Perampanel

CAS Registry Number

380917-97-5

Drug Class

Breast Feeding

Lactation

Milk, Human

Anticonvulsants