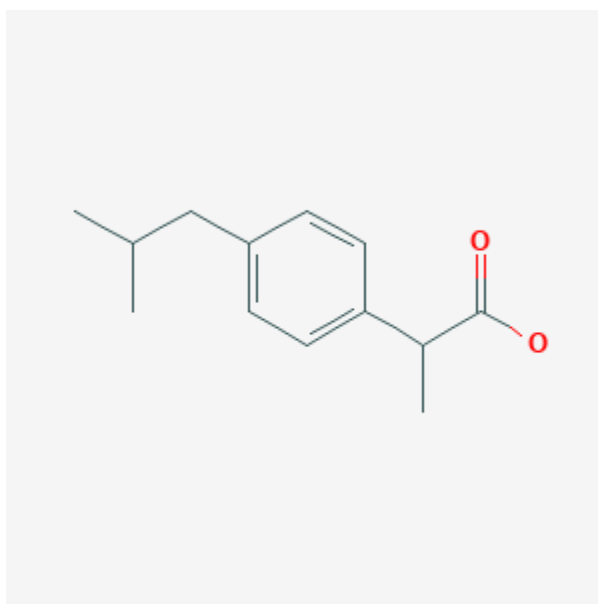




Ibuprofen

Revised: October 31, 2018.

CASRN: 15687-27-1



Drug Levels and Effects

Summary of Use during Lactation

Because of its extremely low levels in breastmilk, short half-life and safe use in infants in doses much higher than those excreted in breastmilk, ibuprofen is a preferred choice as an analgesic or antiinflammatory agent in nursing mothers.

Drug Levels

Maternal Levels. Two early studies attempted measurement of ibuprofen in milk. In one, the patient's dose was 400 mg twice daily, while in the second study of 12 patients, the dose was 400 mg every 6 hours. Ibuprofen was undetectable in breastmilk in both studies (<0.5 and 1 mg/L, respectively).[1][2]

A later study using a more sensitive assay found ibuprofen in the breastmilk of one woman who took 6 doses of 400 mg orally over a 42.5 hours. A milk ibuprofen level of 13 mcg/L was detected 30 minutes after the first dose. The highest level measured was 180 mcg/L about 4 hours after the third dose, 20.5 hours after the first dose. The authors estimated that the infant would receive about 17 mcg/kg daily (100 mcg daily) with the maternal dose of approximately 1.2 grams daily. This dose represents 0.0008% of the maternal weight-adjusted dosage[3] and 0.06% of the commonly accepted infant dose of 30 mg/kg daily (10 mg/kg every 8 hours).

Single milk samples were taken from 13 women between 1.5 and 8 hours after the third dose of ibuprofen in a daily dosage regimen averaging 1012 mg daily (range 400 to 1200 mg daily). Of the 13 milk samples analyzed, the mean milk concentration was 361 mcg/L (range 164 to 590 mcg/L). The mean weight-adjusted percentage of the maternal dosage (relative infant dosage [RID]) was estimated to be <0.38%; however, the RID varied with the time postpartum and the milk protein content. The RID was highest in the colostrum phase when the milk protein content was the highest (RID 0.6%). The estimated mean dosage for a fully breastfed infants was 68 mcg/kg daily or 0.2% of a pediatric dosage.[4]

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

Effects in Breastfed Infants

At least 23 cases are reported in the literature in which infants (ages not stated) were breastfed during maternal ibuprofen use with no adverse effects reported.[1][3][5]

Effects on Lactation and Breastmilk

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

Alternate Drugs to Consider

Acetaminophen, Flurbiprofen, Indomethacin, Naproxen, Piroxicam

References

1. Weibert RT, Townsend RJ, Kaiser DG et al. Lack of ibuprofen secretion into human milk. Clin Pharm. 1982;1:457-8. PubMed PMID: 7184678.
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3. Walter K, Dilger C. Ibuprofen in human milk. Br J Clin Pharmacol. 1997;44:211-2. PubMed PMID: 9278216.
4. Rigourd V, de Villepin B, Amirouche A et al. Ibuprofen concentrations in human mature milk-First data about pharmacokinetics study in breast milk with AOR-10127 "Antalait" study. Ther Drug Monit. 2014;36:590-6. PubMed PMID: 24695355.
5. Ito S, Blajchman A, Stephenson M. Prospective follow-up of adverse reactions in breast-fed infants exposed to maternal medication. Am J Obstet Gynecol. 1993;168:1393-9. PubMed PMID: 8498418.

Substance Identification

Substance Name

Ibuprofen

CAS Registry Number

15687-27-1

Drug Class

Breast Feeding

Lactation

Analgesic Agents

Nonsteroidal Antiinflammatory Agents