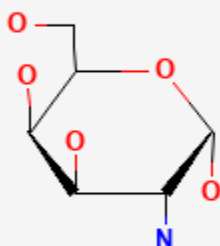




Glucosamine

Revised: May 17, 2021.

CASRN: 3416-24-8



Drug Levels and Effects

Summary of Use during Lactation

Glucosamine is an amino-monosaccharide that is either derived from shellfish or synthetically produced. Glucosamine sulfate has no specific lactation-related uses. It is most commonly used to treat osteoarthritis. A glucosamine derivative, N-acetylglucosamine, is a normal component of human breastmilk. Glucosamine sulfate is well tolerated with occasional gastrointestinal discomfort (e.g., diarrhea, heartburn, nausea, vomiting) reported. Although no studies exist on the use of glucosamine sulfate during breastfeeding, its use by a nursing mother is unlikely to adversely affect the breastfed infant.

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

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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. N-acetylglucosamine is a normal component of human breastmilk. One study measured its content in the breastmilk of 8 mothers nursing fullterm infants. Average concentrations ranged from 1,459 mg/L during week 1 postpartum to 646 mg/L during week 13 postpartum. Considerable variation occurred within and between mothers at various times of the day. Two mothers of preterm infants had higher levels of N-acetylglucosamine than the mothers of fullterm infants.[1]

Another study found higher levels of N-acetylglucosamine in the breastmilk of smokers than in nonsmokers.[2]

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. Miller JB, Bull S, Miller J, et al. The oligosaccharide composition of human milk: Temporal and individual variations in monosaccharide components. *J Pediatr Gastroenterol Nutr.* 1994;19:371–6. PubMed PMID: 7876988.
2. Milnerowicz H, Slowinska M. Concentration of metals, ceruloplasmin, metallothionein and the activity of N-acetyl-beta-D-glucosamine and gamma-glutamyltransferase in pregnant women who smoke and in those environmentally exposed to tobacco smoke and in their infants. Part I. *Int J Occup Med Environ Health.* 1997;10:187–202. PubMed PMID: 9278131.

Substance Identification

Substance Name

Glucosamine

CAS Registry Number

3416-24-8

Drug Class

Breast Feeding

Lactation

Complementary Therapies