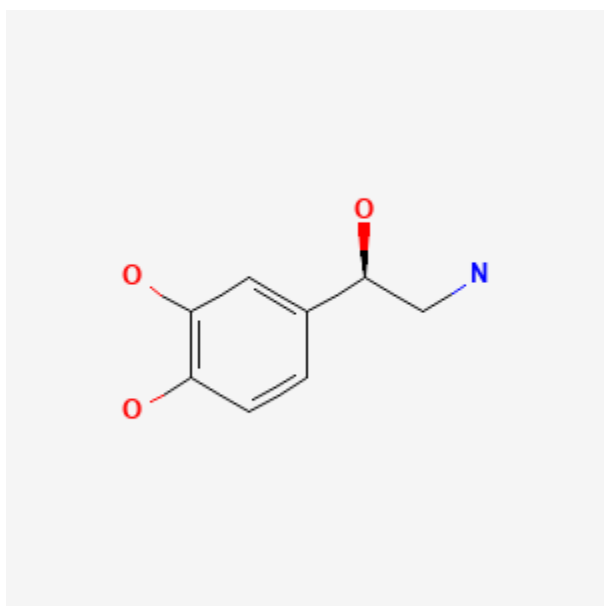




## Norepinephrine

Revised: February 15, 2021.

CASRN: 51-41-2



## Drug Levels and Effects

### Summary of Use during Lactation

No information is available on the use of norepinephrine during breastfeeding. Because of its poor oral bioavailability and short half-life, any norepinephrine in milk is unlikely to affect the infant. High intravenous doses of norepinephrine might reduce milk production or milk letdown as well as decrease the concentration of beta-casein in milk.

**Disclaimer:** Information presented in this database is not meant as a substitute for professional judgment. You should consult your healthcare provider for breastfeeding advice related to your particular situation. The U.S. government does not warrant or assume any liability or responsibility for the accuracy or completeness of the information on this Site.

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## Drug Levels

*Maternal Levels.* Eight nursing mothers collected breastmilk for analysis of norepinephrine. Milk norepinephrine levels ranged from 12.7 to 115.5 nanomolar (2.1 to 19.5 mcg/L). The norepinephrine in milk appears to be synthesized locally by mammary epithelial cells and actively secreted into milk.[1,2]

*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

Norepinephrine inhibits the synthesis of beta-casein via stimulation of adrenergic beta-2 receptors.[1] Animal data indicate that norepinephrine can decrease serum prolactin and reduce milk production,[3] as well as inhibit the release of oxytocin, which inhibits milk ejection.[4]

## References

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2. Chiba T, Takaguri A, Maeda T. Norepinephrine transporter expressed on mammary epithelial cells incorporates norepinephrine in milk into the cells. *Biochem Biophys Res Commun*. 2021;545:1–7. PubMed PMID: 33529804.
3. Thomas GB, Cummins JT, Doughton BW, et al. Direct pituitary inhibition of prolactin secretion by dopamine and noradrenaline in sheep. *J Endocrinol*. 1989;123:393–402. PubMed PMID: 2607250.
4. Song SL, Crowley WR, Grosvenor CE. Evidence for involvement of an adrenal catecholamine in the beta-adrenergic inhibition of oxytocin release in lactating rats. *Brain Res*. 1988;457:303–9. PubMed PMID: 2851365.

## Substance Identification

### Substance Name

Norepinephrine

### CAS Registry Number

51-41-2

### Drug Class

Breast Feeding

Lactation

Adrenergic Agonists

Adrenergic Alpha-Agonists

Catecholamines

Sympathomimetics

## Vasoconstrictor Agents