



# AMPICILLIN

BRAND NAME	AUSTRAPEN, IBIMYCIN
DRUG CLASS	Penicillin antibiotic
AVAILABILITY	Vial contains 500 mg or 1 g of ampicillin as ampicillin sodium. Each 1 g of ampicillin contains 2.7 mmol of sodium. <sup>1</sup>
WARNING	This is a penicillin. If the patient has a history of hypersensitivity to penicillins, confirm antibiotic choice with the treating team.
pH	8–10 when reconstituted <sup>2</sup>
PREPARATION	<p><b>For IM use:</b> reconstitute the 500 mg or 1 g vial with 1.5 mL of water for injections. If a part-dose is required, reconstitute the 500 mg vial with 1.7 mL or the 1 g vial with 3.3 mL of water for injections to make a concentration of 250 mg/mL.<sup>1</sup> There is conflicting compatibility information for mixing with lidocaine in a syringe.<sup>2</sup></p> <p><b>For IV use:</b> reconstitute the vial with 10–20 mL of water for injections. If a part-dose is required, reconstitute the 500 mg vial with 4.7 mL or the 1 g vial with 9.3 mL of water for injections to make a concentration of 100 mg/mL.<sup>1</sup> Powder volume: 500 mg – 0.3 mL, 1 g – 0.7 mL<sup>1</sup></p>
STABILITY	<p>Vial: store below 25 °C. Protect from light.<sup>1</sup></p> <p>Reconstituted solution: use immediately.<sup>1</sup></p> <p>Infusion solution: use immediately. There is conflicting information about the stability of concentrations commonly used.<sup>1,2</sup></p> <p>Solutions of 12 g of ampicillin in 500 mL of sodium chloride 0.9% in PVC bags prepared in a sterile production unit are stable for 72 hours at 2 to 8 °C, followed by 24 hours below 25 °C.<sup>3</sup></p> <p>Solutions of 7.2 g of ampicillin in 240 mL of sodium chloride 0.9% in elastomeric infusors are stable for 24 hours below 25 °C. If prepared in a sterile production unit, stable for 7 days at 2 to 8 °C.<sup>4</sup></p>
ADMINISTRATION	
<b>IM injection</b>	Suitable for adults and children. <sup>1</sup>
<b>SUBCUT injection</b>	Not recommended
<b>IV injection</b>	For doses up to 1 g inject over 3 to 5 minutes. For doses up to 2 g inject over 10 to 15 minutes, or give by IV infusion. <sup>1,5</sup> More rapid injection may cause seizures. <sup>1</sup>
<b>IV infusion</b>	Dilute the dose to a convenient volume with a compatible fluid (e.g. 50–100 mL) and infuse over 30 to 40 minutes. <sup>1</sup>
<b>IV use for infants and children</b>	<p>For doses up to 500 mg, reconstitute to 100 mg/mL and inject over at least 3 to 5 minutes. For doses larger than 50 mg/kg or 500 mg, dilute to 30 mg/mL and infuse over 15 to 30 minutes.<sup>6,7</sup></p> <p>May be given as a continuous infusion over 24 hours.<sup>3</sup> Check your local guidelines or ask your pharmacy service for advice.</p> <p>See <i>Australasian Neonatal Medicines Formulary</i> (<a href="http://www.anmf.org">www.anmf.org</a>) for use in newborns.</p>
COMPATIBILITY	
<b>Fluids</b>	Sodium chloride 0.9% <sup>1,2</sup> , Ringer's <sup>1,2</sup> , glucose 5% (by Y-site only) <sup>1</sup>
<b>Y-site</b>	Aciclovir <sup>2</sup> , amifostine <sup>2</sup> , anidulafungin <sup>2</sup> , aztreonam <sup>2</sup> , bivalirudin <sup>2</sup> , esmolol <sup>2</sup> , filgrastim <sup>2</sup> , foscarnet <sup>2</sup> , granisetron <sup>2</sup> , heparin sodium <sup>2</sup> , labetalol <sup>2</sup> , linezolid <sup>2</sup> , magnesium sulfate <sup>2</sup> , meropenem <sup>2</sup> , morphine sulfate <sup>2</sup> , pethidine <sup>2</sup> , remifentanyl <sup>2</sup>

## INCOMPATIBILITY

**Fluids** Dextran<sup>1,2</sup>, fat emulsion<sup>2</sup>, glucose 5%<sup>1</sup>, glucose in sodium chloride solutions<sup>1</sup>

**Drugs** Aminoglycosides: amikacin, gentamicin, tobramycin<sup>2</sup>, aminophylline<sup>8</sup>, amiodarone<sup>8</sup>, atropine<sup>1</sup>, buprenorphine<sup>8</sup>, caspofungin<sup>2</sup>, clindamycin<sup>1</sup>, dobutamine<sup>8</sup>, dopamine<sup>2</sup>, ergometrine<sup>1</sup>, fluconazole<sup>2</sup>, ganciclovir<sup>8</sup>, haloperidol lactate<sup>8</sup>, hydralazine<sup>2</sup>, ketamine<sup>8</sup>, lorazepam<sup>8</sup>, metoclopramide<sup>2</sup>, midazolam<sup>2</sup>, mycophenolate mofetil<sup>8</sup>, nicardipine<sup>2</sup>, ondansetron<sup>2</sup>, pentamidine<sup>8</sup>, prochlorperazine<sup>2</sup>, promethazine<sup>8</sup>, protamine<sup>8</sup>, sodium bicarbonate<sup>2</sup>, tranexamic acid<sup>8</sup>, verapamil<sup>2</sup>

## REFERENCES

1. Product information. Available from [www.tga.gov.au](http://www.tga.gov.au). Accessed 02/08/2024.
2. ASHP Injectable drug information 2021. Bethesda, MD: American Society of Health-System Pharmacists; 2021.
3. Huskey M, Lewis P, Brown SD. Stability of ampicillin in normal saline following refrigerated storage and 24-hour pump recirculation. *Hosp Pharm* 2021; 56: 507-12.
4. Kang MA, Kang J. Stability test of ampicillin sodium solutions in the Accufuser elastomeric infusion device using HPLC-UV method. *Pharmacology & Pharmacy* 2012; 3: 462-7.
5. Joint Formulary Committee. BNF for children. London: BMJ group and Pharmaceutical Press; 2024.
6. Paediatric Formulary Committee. BNF for children. London: BMJ group and Pharmaceutical Press; 2022-2023.
7. Lexicomp pediatric and neonatal dosage handbook. 29th ed. Hudson, OH: UpToDate Inc; 2022-2023.
8. Ampicillin. In: IV Index [internet]. Trissel's 2 clinical pharmaceuticals database (parenteral compatibility). Ann Arbor, MI: Merative. Accessed 08/12/2022.

## VERSION

9.1