

**\*\*Azithromycin is a broad-spectrum macrolide antibiotic used to treat various bacterial infections, including respiratory, skin, ear, and sexually transmitted infections. It's known for its long half-life and convenient once-daily dosing.\*\***

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## **## 🧪 Chemical Composition**

- **\*\*Active Ingredient:\*\*** \*Azithromycin dihydrate\*
- **\*\*Molecular Formula:\*\***  $C_{38}H_{72}N_2O_{12}$
- **\*\*Drug Class:\*\*** Macrolide antibiotic
- **\*\*Formulations:\*\***
  - Tablets: 250 mg, 500 mg
  - Oral suspension: 100 mg/5 mL, 200 mg/5 mL
  - Injection: 500 mg vial for IV use
  - Eye drops and topical gels (for specific infections)

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## **## 💉 Dosage & Administration**

- **\*\*Route:\*\*** Oral or intravenous
- **\*\*Typical Adult Dosage:\*\***
  - \*Respiratory infections:\* 500 mg on day 1, followed by 250 mg once daily for 4 days (Z-Pak)
  - \*Sexually transmitted infections:\* Single 1 g dose
  - \*Skin infections:\* 500 mg daily for 3 days or 500 mg on day 1, then 250 mg daily for 4 days
- **\*\*Pediatric Dosage:\*\*** Weight-based; commonly 10 mg/kg on day 1, then 5 mg/kg for 4 days
- **\*\*Administration Tips:\*\***
  - Can be taken with or without food
  - Avoid antacids within 2 hours of dosing

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## **## 🏥 Medical Uses**

- **\*\*Common Indications:\*\***
  - Upper and lower respiratory tract infections (e.g., bronchitis, pneumonia, sinusitis)
  - Otitis media (middle ear infection)
  - Skin and soft tissue infections
  - Sexually transmitted infections (e.g., chlamydia)
  - \*Helicobacter pylori\* eradication (in combination therapy)
- **\*\*Mechanism of Action:\*\***
  - Inhibits bacterial protein synthesis by binding to the 50S ribosomal subunit, preventing growth and replication

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## **## ⚠️ Side Effects**

**\*\*Common:\*\***

- Nausea
- Diarrhea
- Abdominal pain
- Headache

**\*\*Less Common but Serious:\*\***

- QT prolongation (heart rhythm disturbance)
- Liver enzyme elevation
- Allergic reactions (rash, anaphylaxis)
- Hearing loss (rare, reversible)

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## ## ⚠ Risks & Precautions

- **\*\*Contraindications:\*\***
  - History of jaundice or liver dysfunction with prior azithromycin use
  - Known allergy to macrolides
- **\*\*Pregnancy & Breastfeeding:\*\***
  - Generally considered safe; consult a physician
- **\*\*Drug Interactions:\*\***
  - May interact with warfarin, digoxin, antacids, and drugs that prolong QT interval
- **\*\*Resistance Risk:\*\***
  - Overuse may lead to bacterial resistance, especially in respiratory pathogens

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## ## 💬 Patient Feedback & Complaints

**\*\*Positive Feedback:\*\***

- Convenient once-daily dosing
- Effective for respiratory and skin infections
- Fewer gastrointestinal side effects compared to other antibiotics

**\*\*Common Complaints:\*\***

- Diarrhea and stomach upset
- Bitter taste in oral suspension
- Occasional recurrence of infection
- Cost concerns for branded versions

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## ## 📄 Summary Table

Category	Details
Drug Name	Azithromycin
Active Ingredient	Azithromycin dihydrate

Use		Broad-spectrum antibiotic for bacterial infections
Dosage		500 mg once daily or Z-Pak regimen
Common Side Effects		Nausea, diarrhea, headache, abdominal pain
Serious Risks		QT prolongation, liver issues, allergic reactions
Patient Feedback		Convenient dosing, effective; GI upset, taste issues
Contraindications		Liver dysfunction, allergy to macrolides

Sources: [Drugs.com](<https://www.drugs.com/azithromycin.html>),  
 [Practo](<https://www.practo.com/medicine-info/azithromycin-25-api>), [Apollo Hospitals](<https://www.apollohospitals.com/medicines/azithromycin>)