

# Rifaximin

**Antibiotic Class:**

Rifamycin (structural analogue of rifampin)

**Antimicrobial Spectrum:**

*Escherichia coli*, *Clostridium difficile*

**Mechanism of Action:**

Rifamycins bind to and inhibit DNA-dependant RNA polymerase

**Pharmacodynamics:**

Most likely concentration-dependant killing (peak/MIC and AUC/MIC)

**Pharmacokinetics:**

C<sub>max</sub> (fasting): 0.004 mcg/L; T<sub>max</sub>: 1.2 ± 0.5 hours; Half-life: 5.8 ± 4.3 hours; AUC: 0.018 (mcg\*h/mL)

\* Note: Rifaximin should NOT be used for systemic infection since less than 0.4% is absorbed after oral administration

**Adverse Effects:**

CNS: headache was seen with both rifaximin and placebo in clinical trials

Allergic: hypersensitivity reactions, allergic dermatitis, and angioneurotic edema have been described uncommonly

**Dosage:**

PO: 200 mg tablets

**Dosing in adults:**

For Traveler's diarrhea: 200mg tablet PO q8h

**Dosing in pediatrics:**

Not FDA approved for patients < 12 years of age

**Disease state based dosing:**

Hepatic failures: No change in dosing, due to limited systemic absorption

Renal failures: Not studied in this population. No change expected due to limited systemic absorption

**Contraindications/Warnings/Precautions:**

NOT effective in patients with Traveler's diarrhea due to *Campylobacter jejuni*, and unproven when caused by *Shigella* spp. and *Salmonella* spp.

Rifaximin should be discontinued if diarrhea persists or worsens over 24 to 48 hours

**Drug Interactions:**

Rifaximin, like other rifamycins, is an inducer of CYP3A4 isoenzymes. Little effect is expected, due to limited systemic absorption

Limited drug-drug interaction studies have shown the following:

Midazolam: No difference in midazolam systemic exposure when coadministered either IV or PO with rifaximin.

Oral contraception: Single dose studies have been conducted with rifaximin and 0.07 ethinyl estradiol and 0.5mg norgestimate, and showed that the kinetics of the oral contraceptive were not altered.

**Pregnancy:**

Category C: Risk unknown. Human studies inadequate.

**Monitoring Requirements:**

Efficacy: Resolution of diarrhea in Traveler's diarrhea

**Brand names/Manufacturer:**

Xifaxan - Salix Pharmaceuticals, USA

Dermodis – Farmades, Italy

Flonorm - Schering-Plough, Mexico

Normix - Alfa Wassermann, Czech Republic, Hungary, Italy

Rifacol - Prodotti Formenti, Italy, Germany

Spiraxin - Bama, Spain

Zaxine - Cantabria, Spain