1. Rifamycins
MOA: Inhibition of mycobacterial RNA polymerase
Rifampin
Rifabutin – less CYP activation
Rifapentine
USE: Latent and Active tuberculosis, MAC, Leprosy, N. Meningitis prophylaxis
PK: Strong CYP inducer – CYP substrate
SE: Hepatotoxicity, Orange/red body fluids

2. Isoniazid
MOA: Inhibit mycobacterial synthesis of Mycolic acid – Activated by TB Catalase Peroxidase
USE: Active and latent mycobacterium tuberculosis
PK: Prodrug – activated by TB Catalase peroxidase
SE: Hepatotoxicity, Peripheral neuropathy – Vit B6 Loss

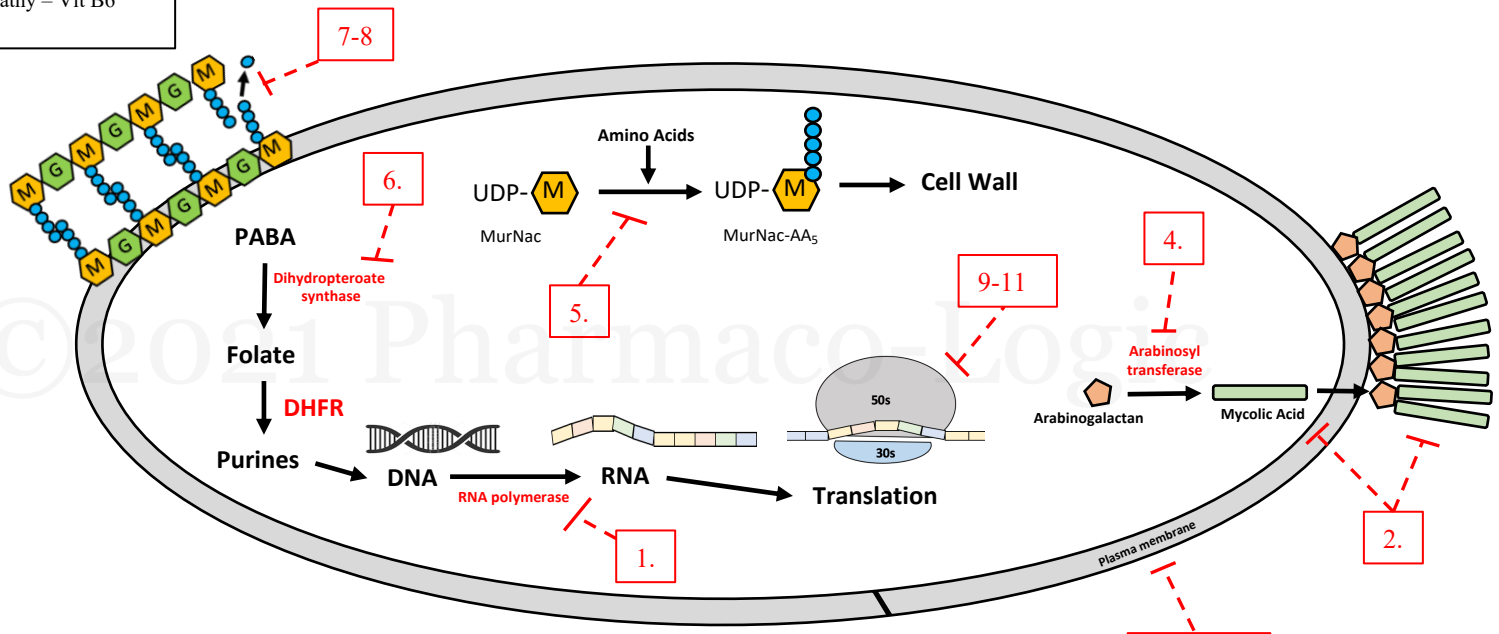
3. Pyrazinamide
MOA: Disrupts plasma membranes → inhibits ATP synthesis
USE: Active tuberculosis
PK: Activated in acidic environments (phagolysosome) Oral, renal eliminated
SE: Hepatotoxicity, Hyperuricemia

4. Ethambutol
MOA: Inhibits arabinosyltransferases → blocks mycobacterial cell wall synthesis
USE: Active TB, MAC
PK: Oral
SE: Hepatotoxicity, optic neuritis (red/green loss), hyperuricemia

5. Cycloserine
MOA: inhibit production of UDP-MurNAc-AA precursors
USE: MDR-TB
PK: Oral
SE: Peripheral neuropathy - Vit B6 loss, CNS effects, Seizures with alcohol

6. Dapsone
MOA: Structural analog of PABA → Inhibit dihydropteroate synthase → inhibit DNA synthesis
USE: Mycobacterium Leprae
PK: Oral
SE: Hemolysis in pt's with glucose-6-phosphate dehydrogenase deficiency

Mycobacterium	Drugs
Active Disease - initial phase	Rifampin, Isoniazid, Pyrazinamide, Ethambutol, streptomycin (RIPES)
Continuation phase - Latent	Rifampin, Isoniazid
Multidrug resistant TB	Ethionamide, cycloserine, aminoglycosides, sulfonamides, Fluoroquinolones, Linezolid
Mycobacteria Avium Complex - Latent	Macrolides
MAC - active	Rifabutin, azithromycin, ethambutol
Leprosy	Rifampin, Dapsone, Thalidomide



7. Vancomycin
MOA: Binds to D-Ala/D-Ala Peptidoglycan peptide and prevents transglycosylation/transpeptidation
PK: Parenterally, Oral for C.Diff, preg Cat. C
Spectrum:
- **G(+) –** MRSA, VRSA (+AG), PRSP, enterococcus
- **Anaerobes –** C. Difficile

SE: Nephrotoxicity, ototoxicity, Redman syndrome,

8. Televancin
MOA: Binds to D-Ala/D-Ala Peptidoglycan peptide and prevents transglycosylation/transpeptidation
PK: Parenterally, Oral for C.Diff, preg Cat. C
Spectrum:
- **G(+) –** MRSA, VRSA (+AG), PRSP, VRE
- **Anaerobes –** C. Difficile

SE: Nephrotoxicity, ototoxicity, Redman syndrome,

9. Quinupristin-Dalfopristin
MOA: Synergistic 50s ribosomal inhibitors
PK: Parenterally, does not cross BBB, biliary excretion
Spectrum:
- **G(+) –** MRSA, VRSA (+AG), PRSP, VRE
- **Atypicals**

Resistance: Ribosomal methylation
SE: Hyperbilirubinemia, CYP3A4 inhibitor

10. Linezolid - $$
MOA: Binds to 23s ribosomal subunit→ prevents 70s complex formation
PK: Oral/parenteral, renal elimination
Spectrum:
- **G(+) –** MRSA, VRSA (+AG), PRSP, VRE
- **MDR-TB**

Resistance: Ribosomal methylation
SE: MAO inhibitor, Myelosuppression, nausea/vomitting

11. Mupirocin
MOA: Similar structure to Isoleucine → inhibits peptide synthesis
PK: topical
Spectrum:
- **G(+) –** MRSA, S. pyogenes

12. Daptomycin
MOA: inserts into bacterial cell wall and disrupts membrane
PK: Parenterally, renal excretion
Spectrum:
- **G(+) –** MRSA, VRSA (+AG), PRSP, VRE

Resistance: Ribosomal methylation
SE: Myopathy, peripheral neuropathy

13. Polymixins
MOA: Cell membrane disruption → detergent
PK: Topical, Oral, parenteral – renal elimination
Spectrum:
- **G(-) –** Enterbacteriacaea, bordatella, pseudomonas, acinetobacter

SE: Nephrotoxicity, muscle weakness