**Cell Wall Biosynthesis Inhibitors**

* Gram positive bacteria have peptidoglycan in their cell wall that determine its rigidity and teichoic acid to regulate cation movement.
  + First drop down: lipids, peptidoglycan, cellulose, teichoic acid
  + Second drop down: teichoic acid, porins, cellulose, peptidoglycan
* In Gram negative bacteria the area between the cytoplasmic membrane and thin layer of peptidoglycan is called the periplasmic space
  + First drop down: pericardium space, endoplasmic space, periplasmic space, pleuraplasmic space
* Source of acetate in N-acetyl glucosamine (NAG) is acetyl CoA
  + First drop down: MurA, pyrophosphatase, phosphoenolpyruvate, acetyl CoA
* Fosfomycin is an irreversible inhibitor of MurA and targets the enzyme UDP-NAG Transferase
  + Cycloserine, Bactoprene, Fosfomycin, Nitrofurantoin
* Fosfomycin is indicated for UTI
  + Meningitis, UTI, pneumonia, yeast infection
* Cycloserine is a reversible competitive inhibitor of Alanine racemase and D-Ala D-Ala ligase
  + Fosfomycin, Bacitracin, Vancomycin, Cycloserine
* A serious side effect of cycloserine is neurotoxicity caused by NMDA binding
  + Muscle aches, ototoxicity, nephrotoxicity, neurotoxicity
* Bacitracin binds to pyrophosphatase and prevents regeneration of Bactoprene
  + First drop down: bacitracin, bactoprene, vancomycin, cycloserine
  + Second drop down: bactoprene, acetyl coA. Bacitracin, peptidoglycan
* Vancomycin binds to peptidoglycan to prevent crosslinking. Resistance to Vancomycin occurs through a change in structure of peptidoglycan from an amide to an ester.
  + First drop down: ester, amide, amine, imine, ether
  + Second drop down: amine, imine, amide, ether, ester
* Vancomycin is not orally absorbed but can treat C. Diff Infections
  + Meningitis, UTI, C. Diff, pheumonia
* To avoid the side effect Red Man Syndrome, vancomycin should be infused slowly
  + First drop down: Steven’s Johnson Syndrome, Reye’s Syndrome, Red Man Syndrome, Extrapyramidal symptoms
  + Second drop down: rapidly, slowly
* Daptomycin cannot be used for pneumonia because of inactivation by surfactants
  + UTI, pneumonia, otitis, sinusitis