* Glycopeptide ABs :
  - Vancomycin
  - Tiecoplanin
  - Telavancin
  - Dalbavancin

* Vancomycin:
  - inhibition Bacterial cell wall synthesis by binding to the D-ala-D-ala terminus
  - Bactericidal
  - active agonst: (G+ve)
    - producting B-Lactamase
    - resistant to nafcillin
    - resistant to Methicillin
    - MRSA
    - enterococcal infections
  - Used for treatment serious infections
  - Resistance in two MoA :-
    ① change in permeability to the drug
    ② ↓ binding of vancomycin to receptor (replacing terminal D-ala by D-lactate)
  - IV for systemic infection.
  - oral only for C. difficille colitis.
  - Vancomycin + ceftriaxone = treat meningitis
  - S/E:
    - irritating
    - red man or red neck syndrome:
      . cause by release histamine
      pretreatment by antihistamin{ as : (diphenhydramine)

* Daptomycin :
  - work on cell membrane.
  - not work on cell wall.

* Daptomycin (cyclic lipopeptide) + Ca^{2+} = depolarization = ↓K^+ = cell death

* Daptomycin :
  - active
    - similar to the vancomycin
    - enterococci
    - S-aureus

* Daptomycin | alternative |
  - linezolid
  - quinupristin = dalfopristin

  For treat :-
  1. MRSA
  2. VRE

* Dapto mycin + surfactants = inactivation = so, not use for pneumonia

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* Fosfomycin :
  - Work on cell wall
  - Analog of phosphoenolpyruvate (PEP)
  - ↓ enzyme enolpyruvate, ↓ Formation N-acetylmuramic acid
  - active against
    - (G-ve)
    - (G+ve)
  - Excreted by → Kidney
  - used as single dose
  - For treat uncomplicated Lower urinary tract infections in women.

that bind to phospholi...

* Bacitracin:
- → work on cell wall
- → is mixture of cyclic polypeptides
- → active → (G +ve)
- → inhibit cell wall : by interfering with dephosphorylation of the lipid.
- → topically:
  - → eye infection.
  - → skin infection.
- → use to infants with:
  - → staphylococcal pneumonia
  - → empyema
- → [US Boxed warning] : IM use may cause renal failure.

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* cycloserine :
- → (G-ve) + (G+ve)
- → L-alanine —(alanine racemase)→ D-alanine
  - * ملداد cycloserine يعمل inhibition to alanine racemase
  - ← بتالي بمنع تكون ال (D-alanine) ..
- → for treat → tuberculosis.
- → S/E at high dose :
  - → CNS toxicity
  - → headaches
  - → tremors
  - → acut psychosic
  - → convulsions
- → orally.

* Polymyxines : → (G-ve)
→ work on cell membran
→ have a detergent-like effect
→ bactericidal
→ two type : → polymxin B
→ polymxin E (colistin)
→ polymxin B : → parenteral
→ otic
→ ophthalmic
→ topical
→ colistin : prodrug → colistimethate sodium
→ colistimethate sodium : → IV
→ inhaled
→ S/E : → nephrotoxicity
→ neurotoxicity : → slurred speech
→ muscle weakness
when used systemically
→ Used as salvage therapy
for patients with multidrug-resistant infections

B-lactam
Cell wall → Glycopeptides
→ fosfomycin
→ Bacitracin
→ cycloserine

polymyxines
cell membran
Daptomycin

Vancomycin
G+v → Bacitracin
Dabtomycin

G+v / G-v → fosfomycin
→ cycloserine

G-v → polymyxines