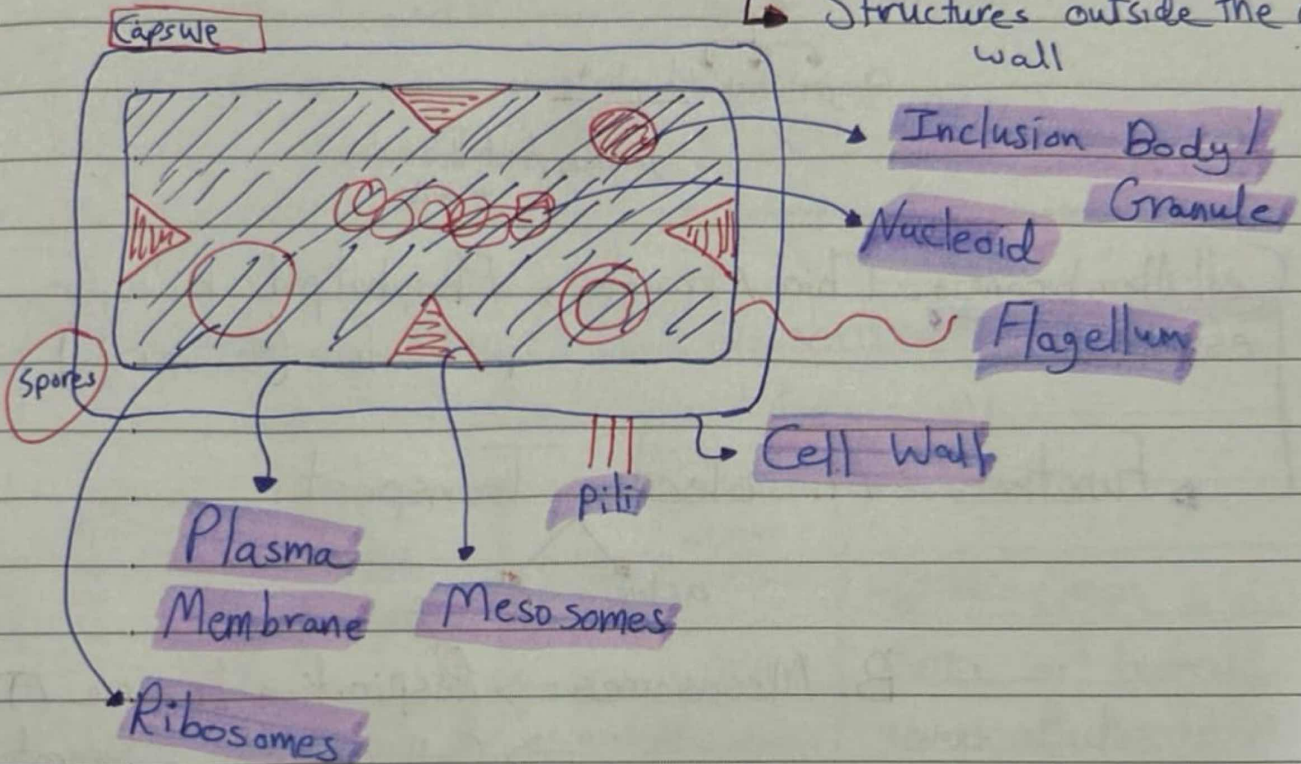


* Bacterial Structure

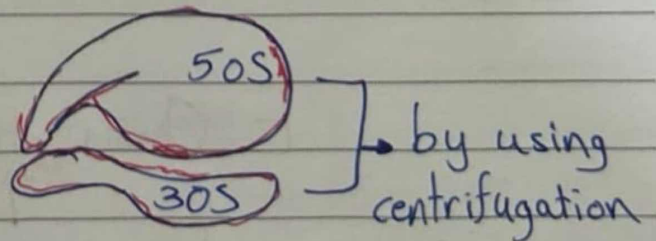
- Intracytoplasmic Structure
- Cell Wall
- Structures outside the cell wall



- * Nucleoid:
1. Single Chromosome essential
 2. Circular
 3. ds DNA

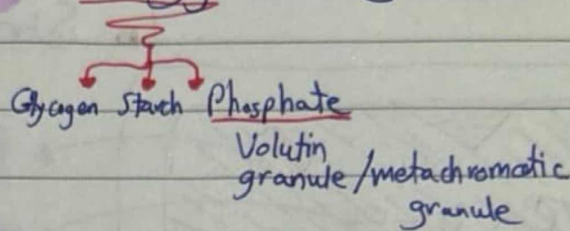
4. 1mm in length but condensed to fit the bacteria
5. Supercoiled.
6. Carry important information that guarantess it's life.

* Ribosome ⇒ 70S
 RNA body essential density unit



* This density is different in humans ⇒ Create anti-bodies.

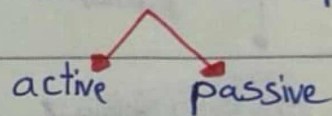
* Inclusion Bodies (Energy Storage)



* Cell Membrane = Thin / Fragile, Phospholipid bilayer + Protein (No Sterols)

essential

Functions: A. Selective Transport.



B. Mesosomes \Rightarrow Respiration Enzyme ATP \Rightarrow Cell division \rightarrow Separates \rightarrow Septal mesosome

C. Biosynthesis of cell wall

D. Excretion of extracellular enzymes

Hydrolitic \Rightarrow large foods

Penicillinase \Rightarrow destroys anti-bodies

E. Chemotactic System (Flagella)

Run Away from danger

Go To healthy materials

* **G⁺** :-

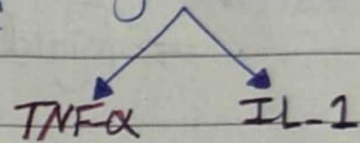
1. 50% Peptidoglycan, Porous

2. Has Teichoic acid + Lipoteichoic acid
⇒ Both are polymers of glycerol or Ribitol

* **Teichoic acid** is the major anti-gen for G⁺

⇒ Highly immunogenic ⇒ responsible for toxic shock

causes secretion of

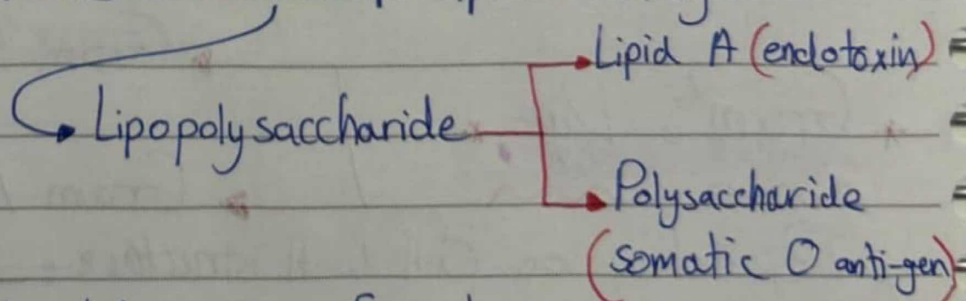


* **G⁻** :-

A: 1. 5% Peptidoglycans

2. Two sheets of NAM-NAG peptide

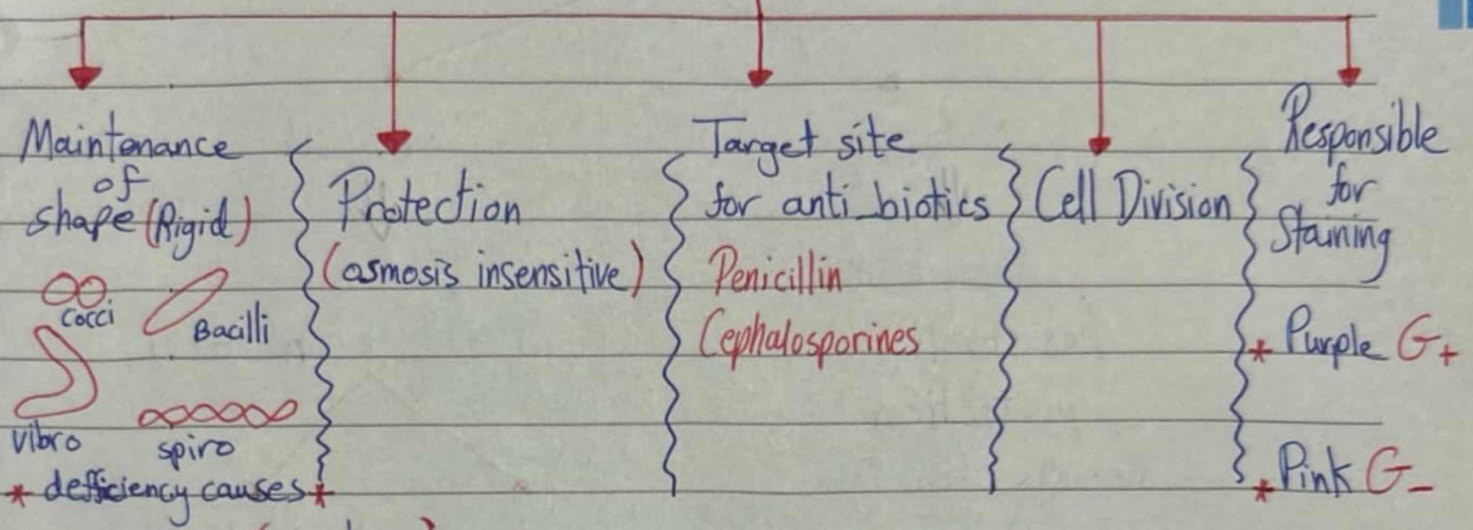
B: Outer membrane: - 1. Phospholipid bilayer



C: Porins ⇒ Hydrophilic protein for transport

D: Periplasmic Space: - Between cytoplasmic & outer membrane
⇒ Peptidoglycan layer + gel-like proteins

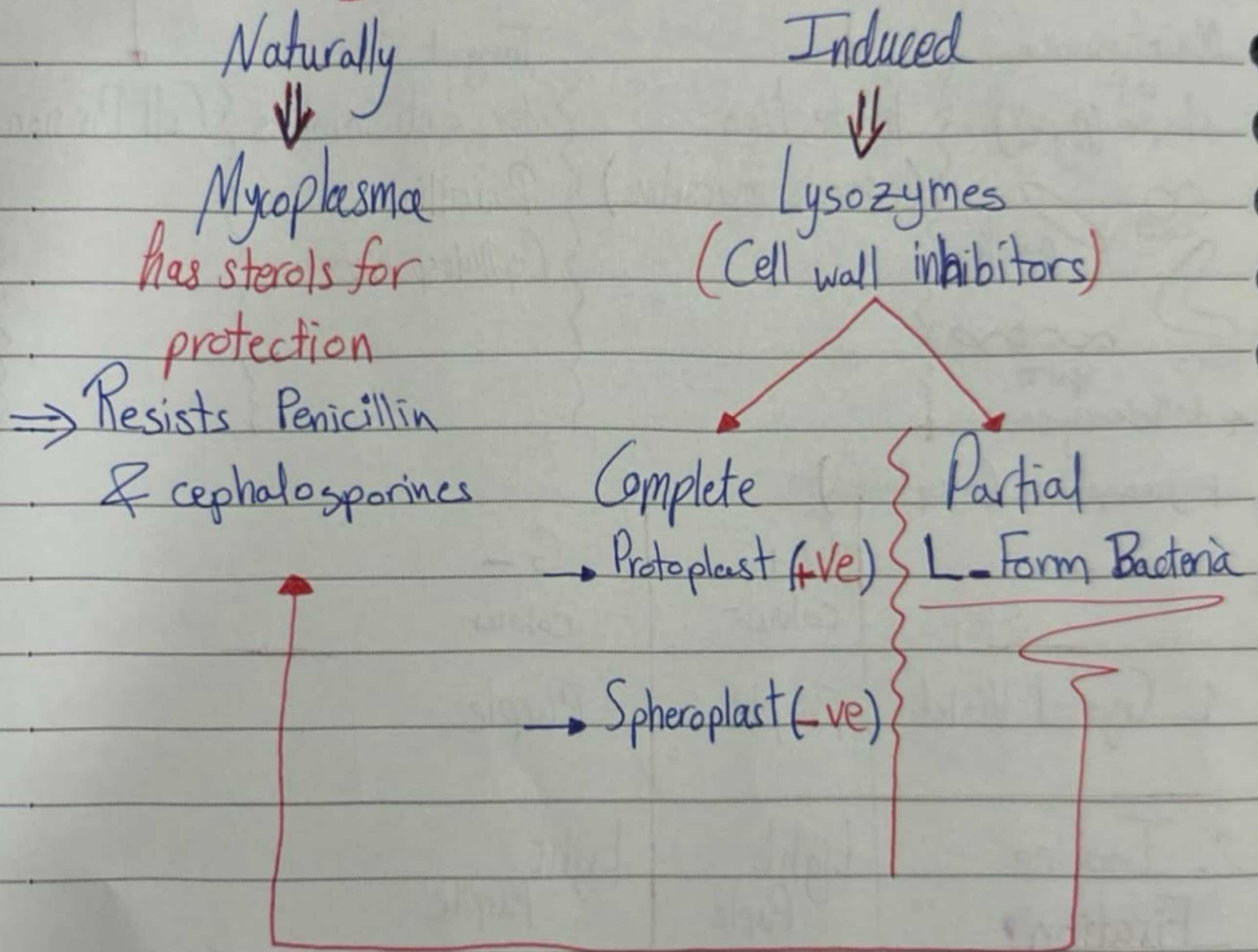
Cell Wall Functions



Steps	G+ colour	G- colour
1. Crystal Violet	Purple	Purple
2. Iodine <u>Fixation</u>	Light Purple	Light Purple
3. Alcohol <u>Critical Step</u>	Light Purple	Clear
4. Counter Stain	Purple	Pink

↳ doesn't affect purple stain

* Cell Wall Deficiency *



فريق دوابين العلمي #

