CONCEPT: 4) AVOIDING THE COMPLEMENT SYSTEM

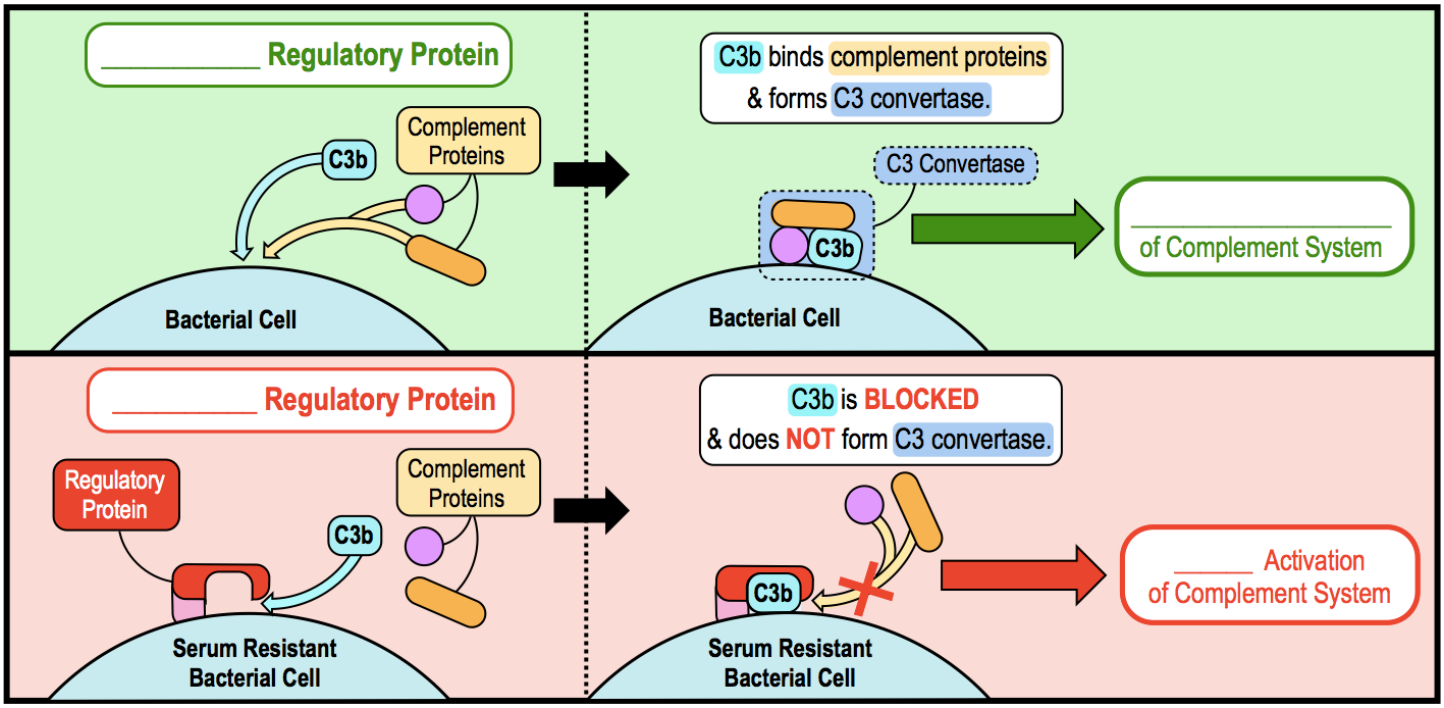
●*Recall:* complement system activation can result in *inflammation*, *opsonization*, or *membrane-attack complexes (MAC).*

●Bacteria *resistant* to complement system are called _____ **resistant;** *serum* = *blood* (complement proteins reside).

□ Serum resistant bacteria _____ complement system activation by binding & *inhibiting* _____.

□ *Recall:* C3b is a protein important for *activating* the complement system.

□ Regulatory proteins on serum-resistant bacteria bind & inhibit C3b, preventing C3 convertase formation.



PRACTICE: Which types of pathogenic bacteria are susceptible to MACs and why?

a) Gram-positive bacteria because MACs easily pass through the thick cell wall to reach the plasma membrane.

b) Gram-negative bacteria because the MACs attack their outer membrane which is not protected by the cell wall.

c) Both gram-negative and gram-positive bacteria are susceptible to MACs.

PRACTICE: All of these survival mechanisms are unique to serum resistant bacterial pathogens ***except*** which of the following?

a) Producing membrane damaging toxins.

b) Bacterial proteins binding to C3b.

c) Thick peptidoglycan cells walls.

d) Inhibition of C3 convertase.