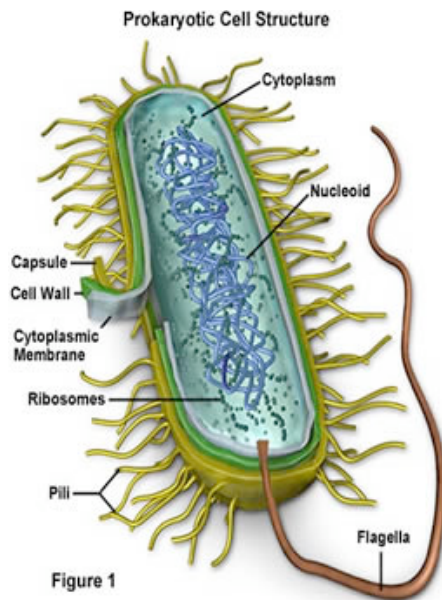


STRUCTURE-FUNCTION STUDIES OF β -LACTAMASE

BACTERIA & ANTIBIOTICS

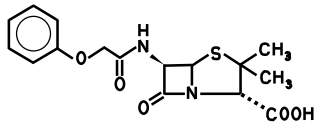
How Antibiotics work:

1. Weaken bacterial cell wall (β -lactams, vancomycin, etc)
2. Disrupt cell division/DNA replication
3. Disrupt protein synthesis (Rifampin, Tetracyclines, Macrolides, etc)
4. Disrupt other metabolic processes within bacterial cells

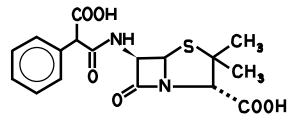


β -LACTAMS & β -LACTAMASE

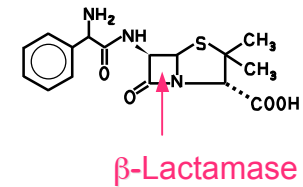
Penicillin V



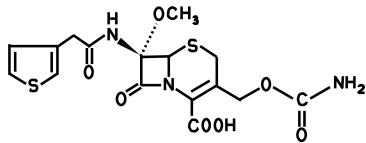
Carbenicillin



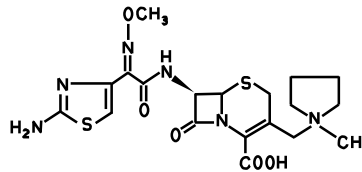
Ampicillin



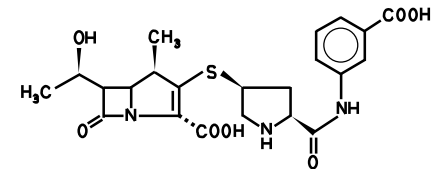
Cefoxitin



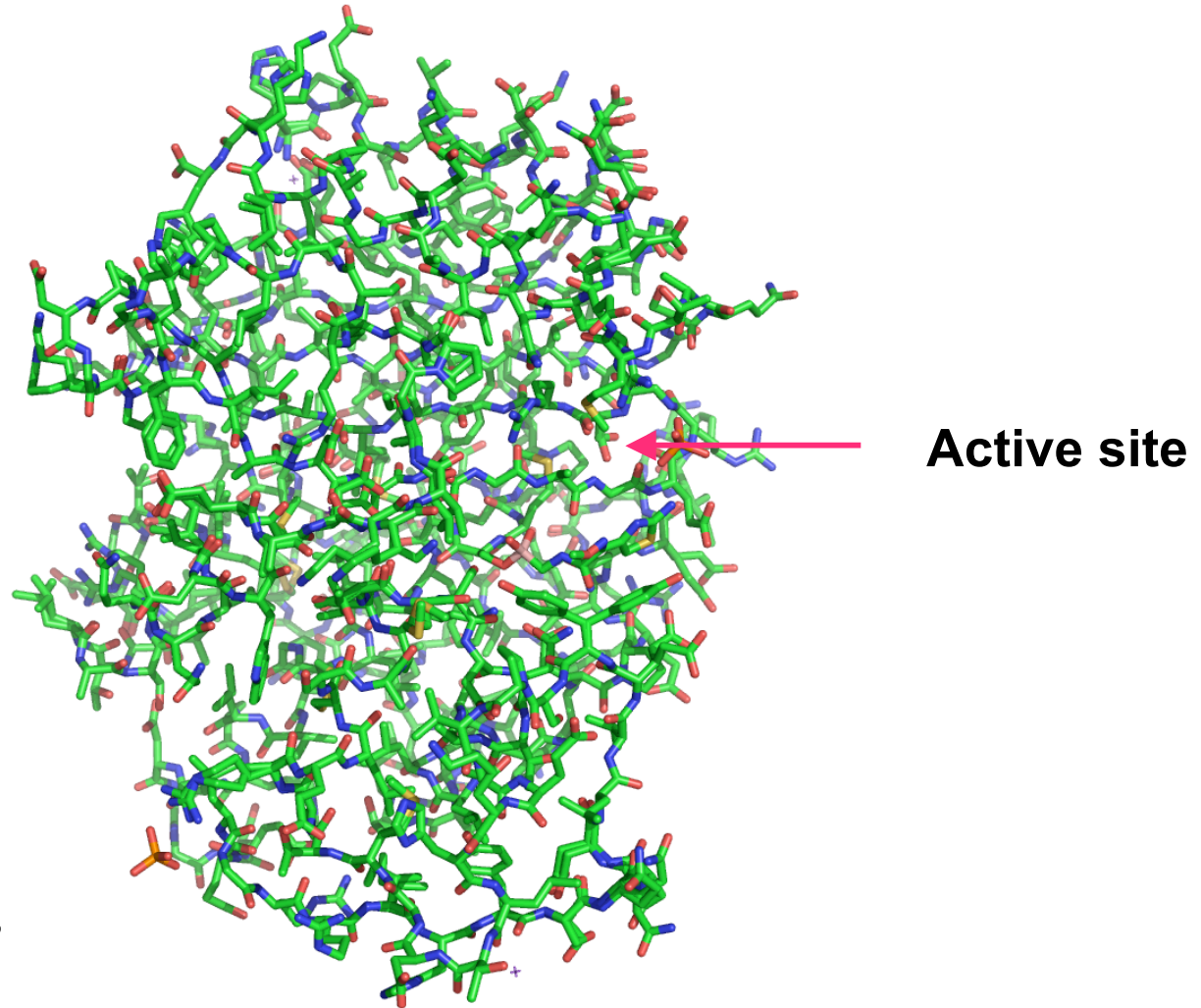
Cefepime



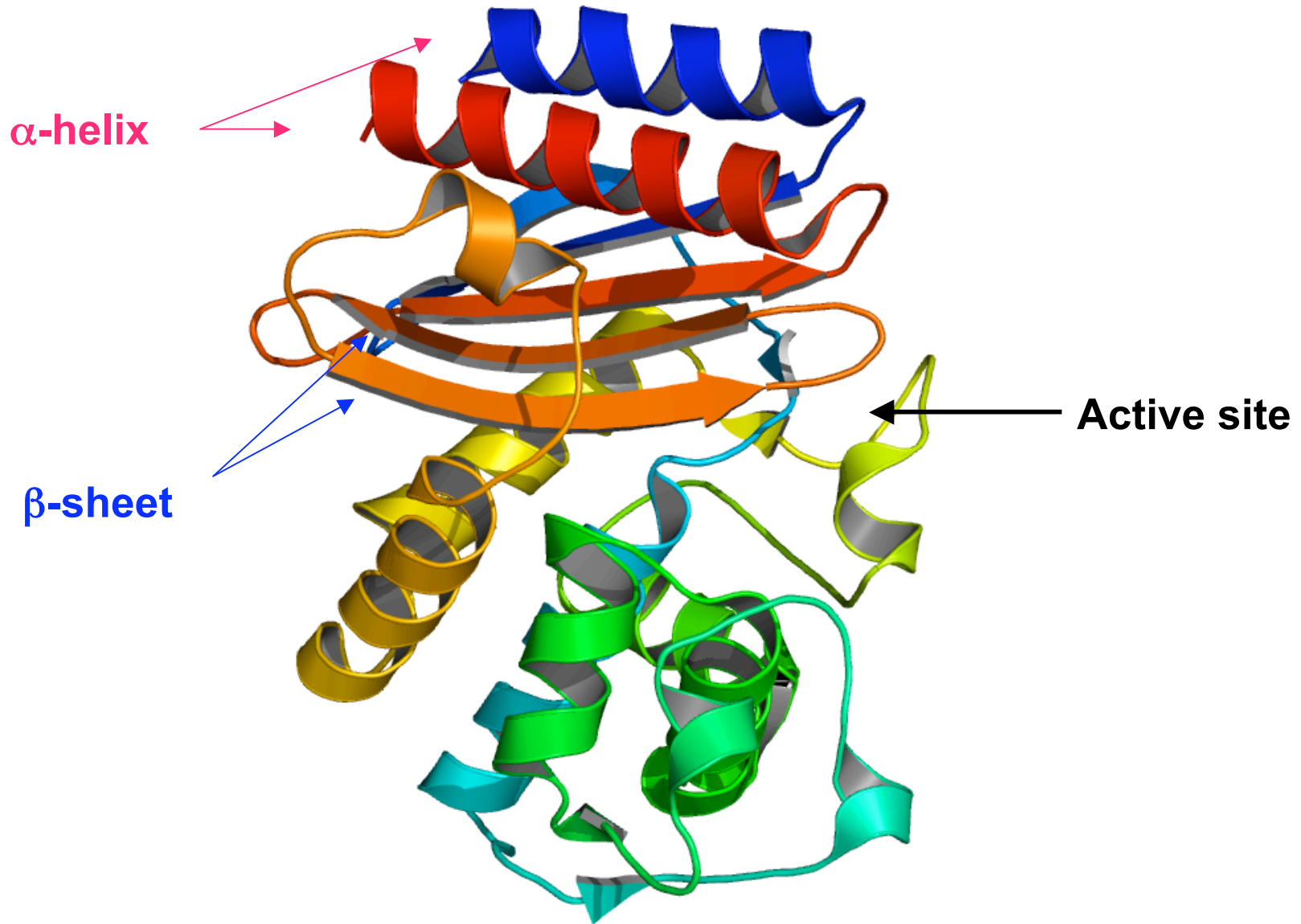
Ertapenem



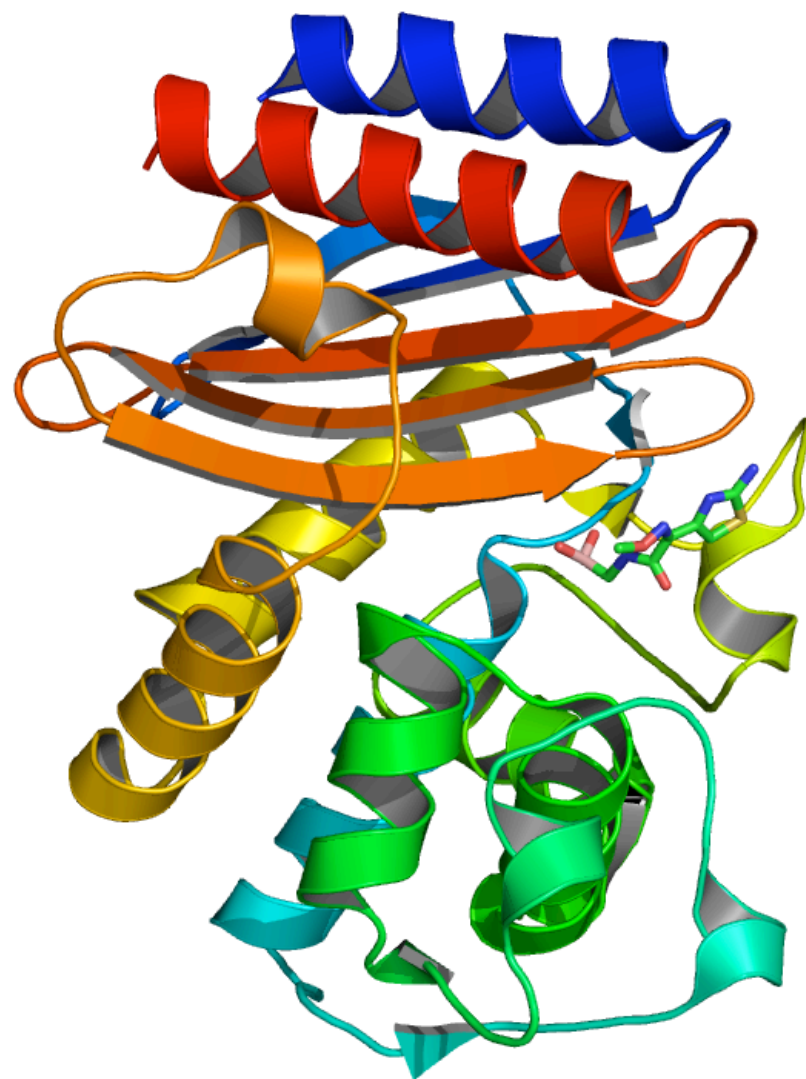
β -LACTAMASE: LINE DRAWING



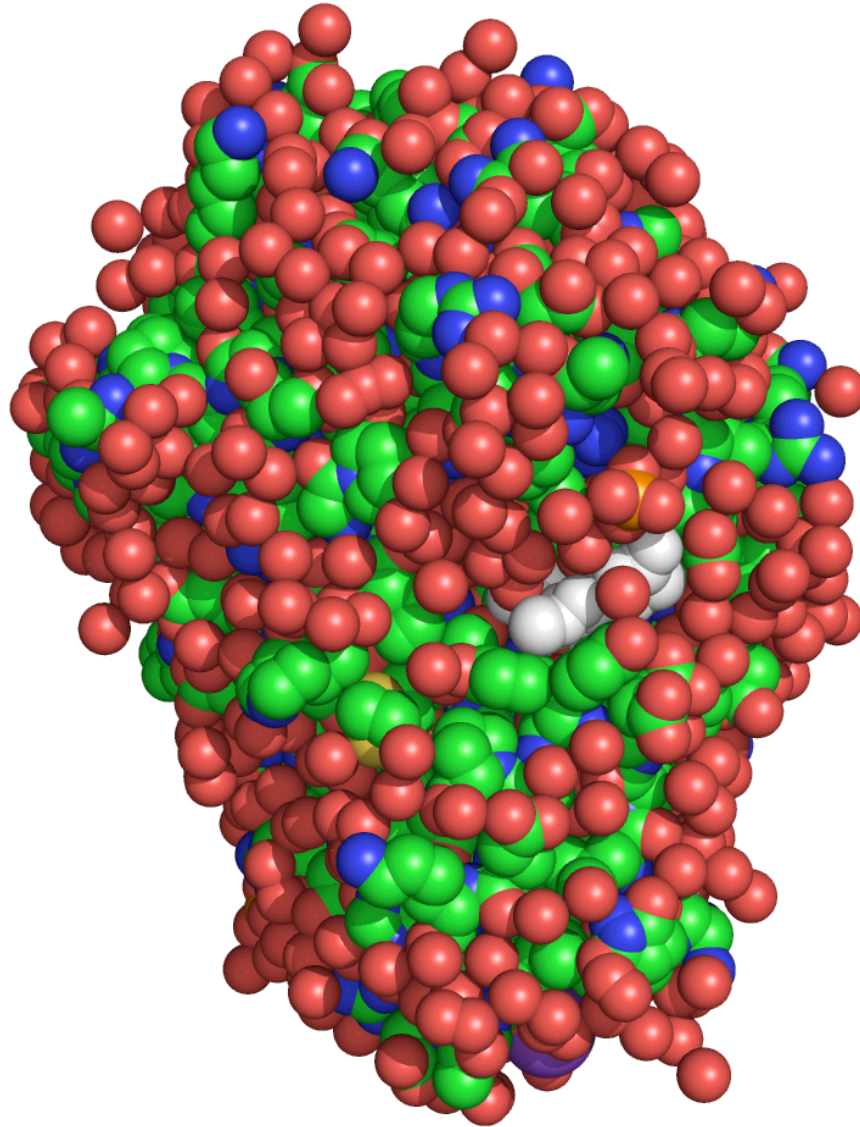
β -LACTAMASE: CARTOON DRAWING



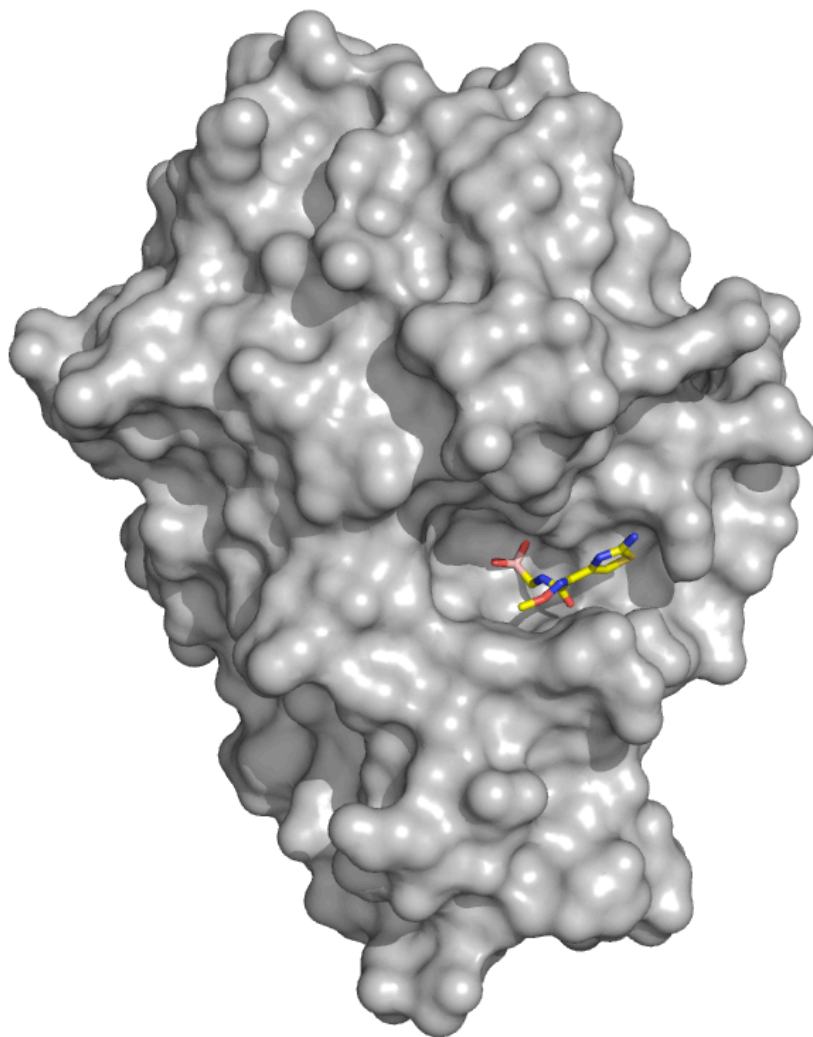
CARTOON DRAWING OF β -LACTAMASE-INHIBITOR COMPLEX



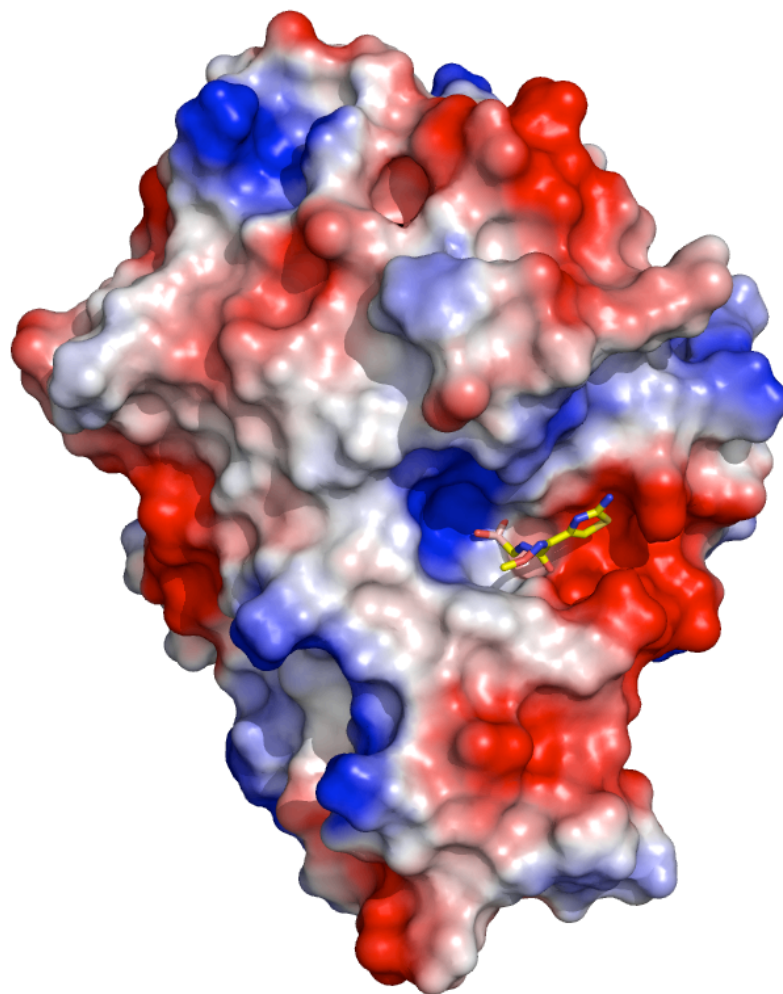
SPACE-FILLING (CPK) MODEL



SURFACE DIAGRAM OF β -LACTAMASE-INHIBITOR



SURFACE DIAGRAM OF β -LACTAMASE-INHIBITOR



Active site residues

