

## Identification and development of novel/new class of antibiotics against ESKAPE pathogens

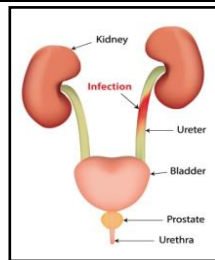
The need of new therapies for drug-resistant infections is widely recognized as one of the most serious public health issues facing the world today. ESKAPE (*Enterococcus faecium*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Enterobacter* species) pathogens are the leading cause of nosocomial infections (hospital-acquired infections- HAIs) throughout the world. ESKAPE pathogen causes various life-threatening serious infections e.g., *Enterococcus faecium* causes urinary tract infections, bacteremia, endocarditis, intra-abdominal & pelvic infections, *Staphylococcus aureus* causes skin infections, pneumonia, meningitis, osteomyelitis, endocarditis, toxic shock syndrome, bacteremia, sepsis and wound infections, *Klebsiella pneumoniae* causes pneumonia, blood stream infections, wound infections, urinary tract infections and meningitis, *Acinetobacter baumannii* causes bacteremia, pneumonia, meningitis, urinary tract infections, wound infections, *Pseudomonas aeruginosa* causes pneumonia, urinary tract infections, bacteremia, *Enterobacter* species (*Enterobacter cloacae*, *Enterobacter aerogenes* etc.) causes respiratory tract infections and urinary tract infections etc. Most of them are multidrug isolates, which is one of the greatest challenges in clinical practice. Multidrug-resistant is amongst the top three threats to global public health and is usually caused by excessive drug usage or prescription, inappropriate use of antimicrobials and substandard pharmaceuticals. Understanding the resistance mechanisms of these bacteria and the development of novel antimicrobial agents (antibiotics) is urgent.

### Electron Microscopic image



**E- *Enterococcus faecium***

### Causing infection image



### infection/disease

Urinary tract infection etc.



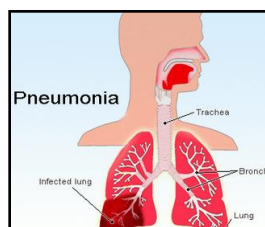
**S- *Staphylococcus aureus***



Skin infections etc.

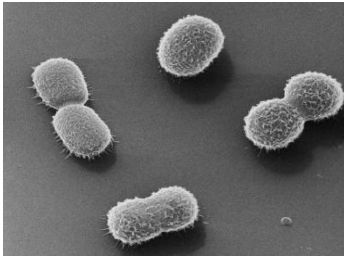


**K- *Klebsiella pneumoniae***



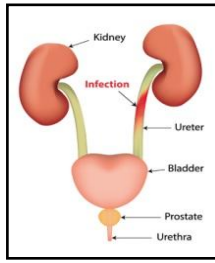
Pneumonia etc.

**Electron Microscopic image**



**A- *Acinetobacter baumannii***

**Causing infection image**

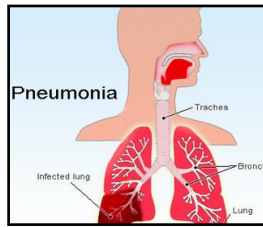


**infection/disease**

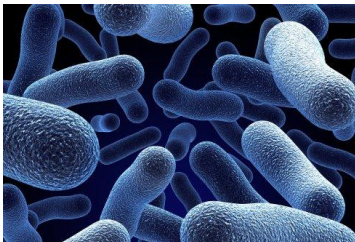
Urinary tract infection etc



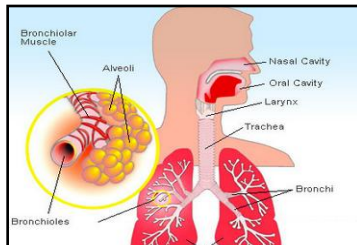
**P- *Pseudomonas aeruginosa***



Pneumonia etc.



**E- *Enterobacter* species**



Respiratory tract infections etc.