# Zosurabalpin

By IASToppers | 2024-01-09 16:10:00



## Zosurabalpin

Researchers have identified a new class of antibiotics with the potential to tackle a drug-resistant bacterium, **Acinetobacter baumannii**.



[ref-BNN Breaking]

## About Zosurabalpin:

- Zosurabalpin was previously identified as capable of inhibiting the growth of A. baumannii.
- It inhibits a crucial process the transport of lipopolysaccharide (LPS) by targeting a complex of proteins.
  - This complex is **vital for transporting LPS** to the bacterial surface to form the outermembrane structure of **Gram-negative bacteria**.
- Zosurabalpin disrupts LPS transport, leading to an abnormal accumulation of LPS in the cell, ultimately causing the death of the bacterium.
- Additionally, **Zosurabalpin** significantly **reduced bacterial levels** in **mice** with CRAB-induced **pneumonia** and prevented the death of those with **CRAB-related sepsis**.

### About CRAB

- CRAB is classified as a **priority 1 critical pathogen** by the World Health Organization, along with two other drug-resistant bacteria **Pseudomonas aeruginosa** and **Enterobacteriaceae**.
- Crab is a significant cause of infection in hospitals, particularly in people who are on ventilators.
- While it is not an **aggressive pathogen** it is resistant to multiple different antibiotics, making it very difficult to treat.
- Development of new treatments against this bacterium has been **extremely challenging** because it is very adept at keeping antibiotics from getting past its **outer cell layer**.

#### Threat from Antibiotic-resistant:

- Antibiotic-resistant infections, especially those caused by Gram-negative bacteria, pose an urgent threat to human health.
- These bacteria are protected by an outer shell containing a substance called **lipopolysaccharide** (LPS).
- LPS allows bacteria to live in harsh environments, and it also allows them to evade attack by





the immune system.