

Vital Oxide® Kills CRE

In testing conducted by Antimicrobial Test Laboratories, Vital Oxide Hospital Disinfectant has proven efficacy against Carbapenem-Resistant Enterobacteriaceae (CRE) (NDM-1)

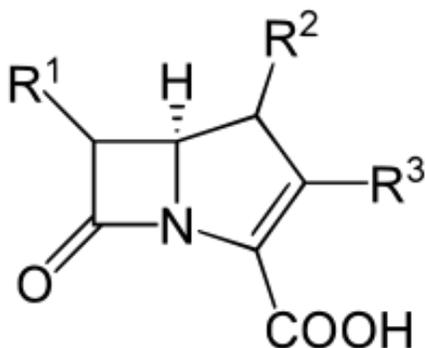
Carbapenem-Resistant Enterobacteriaceae (CRE) have recently gained notoriety because infections caused by this class of microorganism are difficult if not impossible to treat clinically, resulting in an estimated mortality rate among infected individuals of up to 50%.

Below, ATL provides more information on this deadly microorganism, for interested parties to use as a general resource.

Enterobacteriaceae is a family of rod-shaped, facultative anaerobic Gram-negative bacteria; Enterobacteriaceae are normal microbiological flora of the intestinal tract of the human body. However, pathogenic species of this family can lead to potentially deadly opportunistic infections, previously easily treatable through the use of broad-spectrum antibiotics.



Carbapenems are type of antibiotics called beta-lactams. Beta lactam antibiotics (of which penicillin is a member) inhibit synthesis of peptidoglycan, the building block of most bacterial cell walls, disrupting necessary functions that the organism needs to survive. Imapenem, Ertapenem, and Meropenem are all carbapenem antibiotics.



Carbapenems are special because a molecular ring is incorporated in the structure of the molecule. The ring makes the molecule more difficult for bacteria to break down using bacterially-produced antibiotic-destroying enzymes called beta-lactamases.

Recently, some bacteria developed the ability to produce enzymes capable of destroying the carbapenem class of antibiotics. Worse, these molecular tools are easily transferred from one bacterium to the next on mobile genetic elements. This means that a carbapenem-resistant *E. coli* cell can lead to a carbapenem-resistant *Klebsiella pneumoniae* cell.

Two distinct carbapenem resistance enzymes appear to be involved emerging bacterial resistance to carbapenems. New Delhi Beta-Lactamase (NDM-1) and *Klebsiella pneumoniae* carbapenemase (KPC).

There is some good news with regard to CRE pathogens: The presence of carbapenem-resistance mechanisms does not appear to increase their resistance to disinfection or sanitization. This runs along the same lines as the healthcare community has already observed with regard to methicillin-resistant *Staphylococcus aureus* (MRSA). ATL Phone: 512-310-8378 • Email: Info @ AntimicrobialTestLabs.com • © Antimicrobial Test Laboratories.

http://www.antimicrobialtestlaboratories.com/CRE_carbapenem_resistant_enterobacteriaceae_testing_services.htm