

Common Terms Used to Describe Resistant Gram-Negative Bacilli

Ambler classification	This is a classification system for β lactamases based on their amino acid sequence and their active site residue.
β lactam antibiotics	These antibiotics compromise the penicillins, cephalosporins, and carbapenems, which share the common basic chemical structure of a 4-
β lactamases	These enzymes hydrolyze the β-lactam ring and inactivate the β-lactam class
β-lactam ring	The β-lactam ring is part of the core structure of several antibiotic families, the principle ones being the penicillins, cephalosporins, carbapenems, and monobactams, which are therefore also called β-lactam antibiotics. Nearly all these antibiotics work by inhibiting bacterial cell wall biosynthesis.
Carbapenemases	These are broad spectrum β-lactamases (usually Ambler class A, B, or D), which can hydrolyze carbapenems, in addition to the penicillins and the first to fourth generation cephalosporins, although activity may vary depending on
Carbapenem resistant gram-negative bacilli (CRGNB) and carbapenem-resistant Enterobacteriaceae vs carbapenemase-producing gram-negative bacilli (CPGNB) and carbapenemase-producing Enterobacteriaceae	CPGNB are most often CRGNB (susceptibility testing may yield rare isolates and may have low carbapenem minimum inhibitory concentrations): however, not all CRGNB are carbapenemase producers. Carbapenem resistance may be mediated by ESBL or AmpC production, for example, associated with porin loss. The Enterobacteriaceae are a large family of gram-negative bacilli, which ferment glucose. Non-fermenting gram-negative bacilli include <i>Pseudomonas aeruginosa</i> and <i>Acinetobacter baumannii</i>.
Cephalosporinases	ESBLs are technically Cephalosporinases but the term cephalosporinase is generally reserved to describe Ambler class C AmpC β-lactamases which are ceftioxin resistant and are not inhibited by the β-lactamase inhibitors (e.g.
Extended-spectrum β-lactamases (ESBLs)	These are broad spectrum, Ambler class A β-lactamases which hydrolyze the penicillins and first to fourth generation cephalosporins, which are ceftioxin susceptible and are inhibited by the β-lactamase inhibitors (e.g. clavulanate).