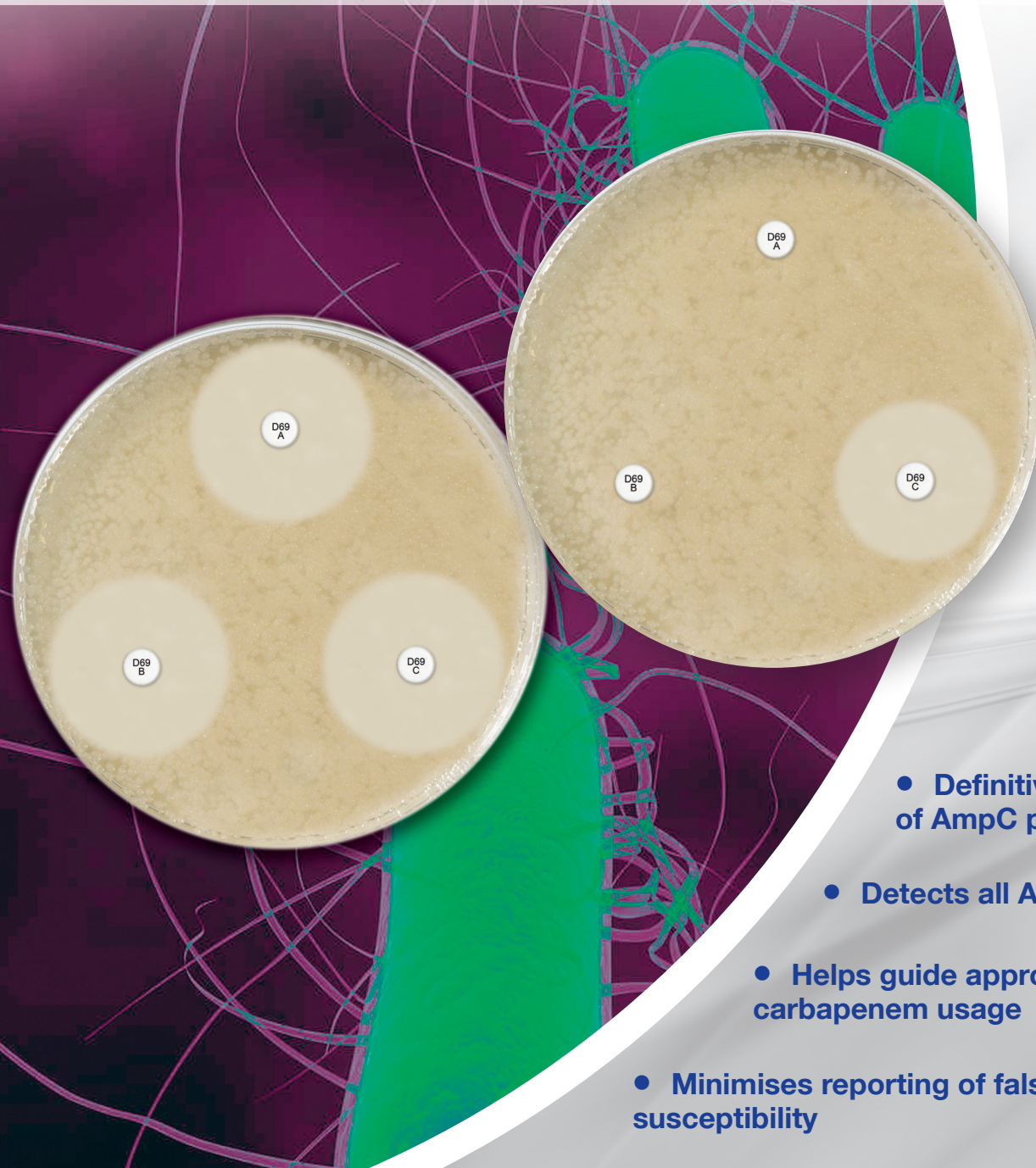


MASTDISCS[®] *Combi*

AmpC Detection Set - D69C

Combination disc set for the identification of AmpC producing Enterobacteriaceae



- **Definitive identification of AmpC producers**
- **Detects all AmpC types**
- **Helps guide appropriate carbapenem usage**
- **Minimises reporting of false cephalosporin susceptibility**

Mast Group Ltd. continues to lead the market in the classification, identification and detection of ESBL and AmpC producing pathogens with the development of the AmpC Detection Set.

What is AmpC?

AmpC beta-lactamases are bacterial enzymes that hydrolyse 3rd generation extended spectrum cephalosporins and cephamycins engendering resistance to these categories of antibiotic.

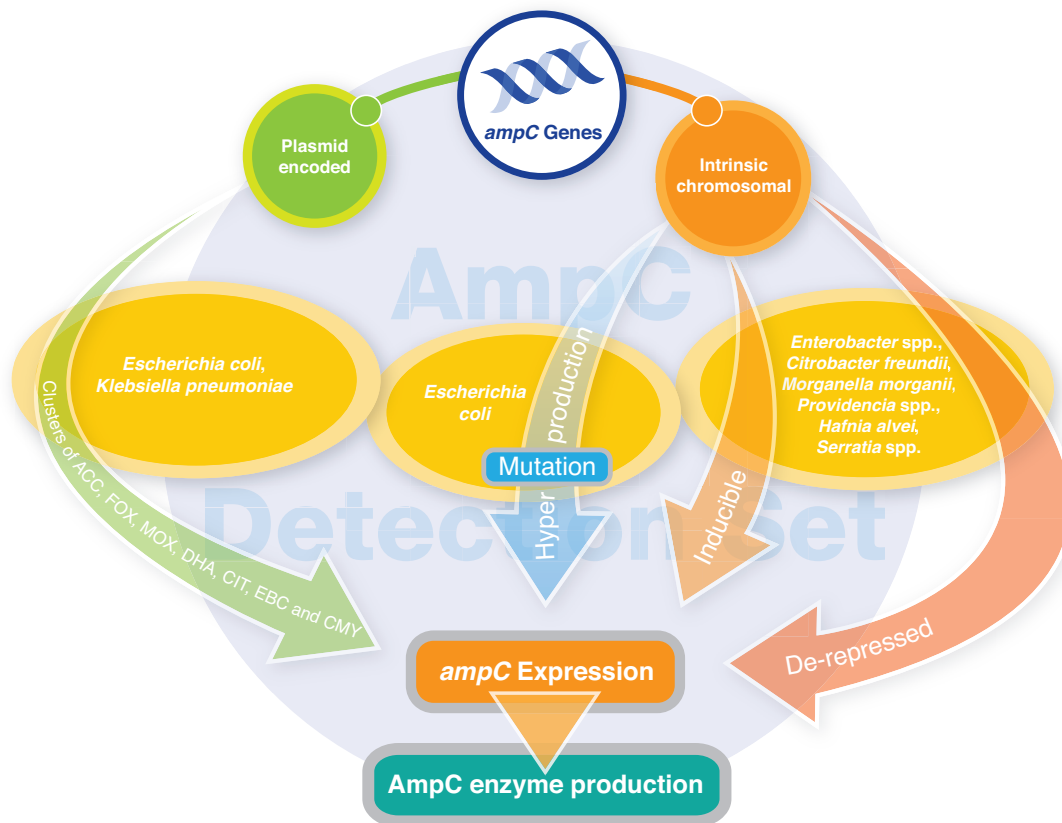


Fig. 1: Expression of ampC

Importance of AmpC detection

Diagnostically, all types of AmpC producers are equally significant and may lead to therapy failure in critically ill patients.

The onslaught of AmpC resistance represents a major challenge for clinicians as it renders 3rd generation cephalosporins increasingly ineffective.

Of particular concern are the limited treatment options for Gram negative resistant bacteria leading to antibiotic selection pressure and consequent risk of the emergence of carbapenem resistance.

Confirmation of AmpC production supports susceptibility information, permitting carbapenems to be reserved for complicated infections. This may allow selection of a targeted narrow spectrum antibiotic rather than those with broad spectrum activity, minimising the risk of selecting for, or promoting the development of resistance.

When to suspect AmpC

AmpC can be suspected in *E.coli* and *Klebsiella* spp. when resistance to cephalosporins, including cefoxitin, is detected.

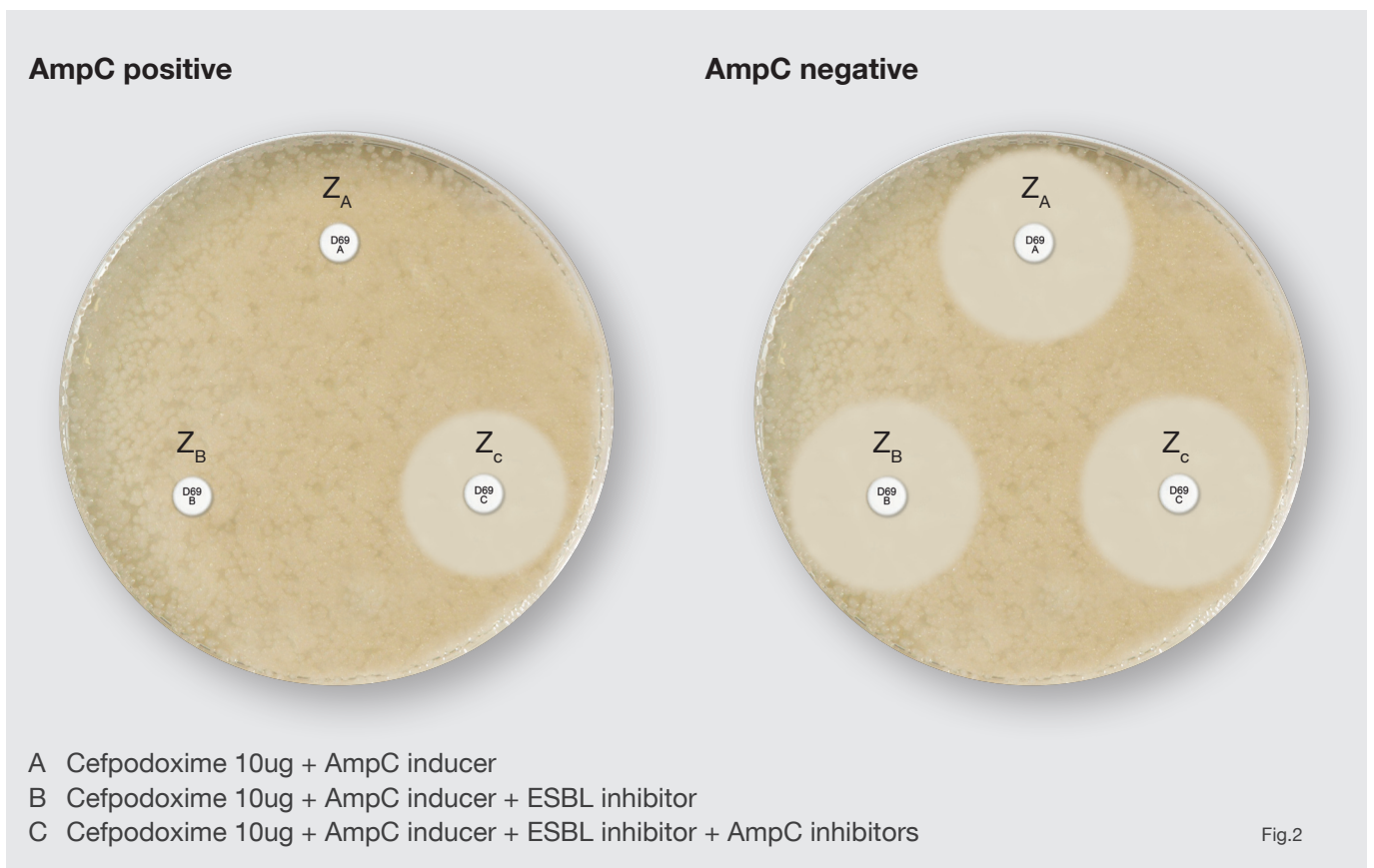
Suspect isolates may generate an unexpected result for ESBL confirmatory tests due to the induction of AmpC activity caused by ESBL inhibitors.

AmpC can be suspected in strains that have an intrinsic chromosomal ampC gene, where the initial susceptibility screen may not indicate resistance.

Benefits of MastDISC® Combi AmpC Detection Set

- Detection of ALL mechanisms of AmpC resistance**
Combining an AmpC inducer with both ESBL and AmpC inhibitors simultaneously promotes AmpC enzyme induction whilst selectively blocking the enzyme active site. In consequence, plasmid and intrinsic de-repressed, inducible or hyperproduced AmpCs can be detected, irrespective of how ampC genes are encoded or expressed (fig.1).
- 98% sensitivity, 100% specificity**
Reliable phenotypic AmpC detection minimises the risk of erroneously reporting cephalosporin susceptibility, diminishing any potentially serious consequences.
- Easy to interpret**
A simple calculation based on zone size comparison indicates the presence of an AmpC producer (Fig.2).
- Flexibility for multiple applications**
AmpC Detection Set can be used in conjunction with **MASTDISCS® Combi AmpC** and ESBL Detection Set (D68C) to confirm AmpC production, or as a standalone test to screen E.coli and Klebsiella spp. isolates for plasmid acquired ampC genes.
- Definitive Identification of AmpC producers**
The resultant increase in sensitivity and specificity afforded by the novel use of an inducer compound permits a definitive identification, diagnostically superior to more presumptive methods.
- Combination discs manufactured in matched pairs**
To prevent erroneous results arising from variations in content, PHE, formerly UK Health Protection Agency (HPA)* recommend using only corresponding antibiotic and antibiotic inhibitor combinations which have been jointly manufactured and QC tested. (*HPA AMRL, Summer 2005)
- Available from Stock**
In common with the current range of Mast Group Ltd. ESBL detection discs, the AmpC Detection Set is provided as a stock product with 12 months shelf life.
- Compatible with MAST® DISCMASTER**
Permits consistent orientation of paired discs aiding standardisation for routine testing.

Visual of Results



Ordering Information

Order Code	Product €€	Pack Size	Usage
171692	MASTDISCS® Combi AmpC Detection Set (D69C)	3 x 50 discs	Confirmation of plasmid and chromosomally encoded AmpC

Additional products from Mast Group Ltd. AMR range

Order Code	Product €€	Pack Size	Usage
171742	MASTDISCS® ID Indirecter Carbapenemase Test (ICT) - D74C	250 tests	Screening tool for MBL & OXA enzymes
171732	MASTDISCS® Combi <i>Carba plus</i> - D73C	5 x 50 discs	Confirmation of MBL, KPC and OXA-48-like carbapenemases
171722	MASTDISCS® Combi AmpC, ESBL & Carbapenemase Detection Set - D72C	6 x 50 discs	Confirmation of plasmid and chromosomally encoded AmpC and/or ESBL production including carbapenemase screen
171712	MASTDISCS® ID Carbapenemase Activity Test (CAT) - D71C	5 x 50 discs	One disc screening test for carbapenemase activity
171682	MASTDISCS® Combi AmpC und ESBL Detection Set - D68C	4 x 50 discs	Confirmation of AmpC and /or ESBL production
171672	MASTDISCS® Combi Extended Spectrum β lactamase (ESBL) Set (CPD10) - D67C (EUCAST & CLSI)	6 x 50 discs	Confirmation of ESBL production in isolates with no chromosomal de-repressed or inducible AmpC
171662	MASTDISCS® Combi Cefpodoxime ESBL ID Set - D66C (EUCAST)	6 x 50 discs	Confirmation of ESBL production in isolates with no chromosomal de-repressed or inducible AmpC
171642	MASTDISCS® Combi Ceftazidime ESBL ID Set - D64C (CLSI)	6 x 50 discs	Confirmation of ESBL production in isolates with no chromosomal de-repressed or inducible AmpC (*use concurrently with D62C)
171632	MASTDISCS® Combi Cefepim ESBL ID Set - D63C	6 x 50 discs	Confirmation of ESBL production in isolates with chromosomal AmpC
171622	MASTDISCS® Combi Cefotaxim ESBL ID Set - D62C (CLSI)	6 x 50 discs	Confirmation of ESBL production in isolates with no chromosomal de-repressed or inducible AmpC (* use concurrently with D64C)
171055	MASTDISCS® Combi Extended Spectrum β lactamase (ESBL)-Set - D52C (EUCAST & CLSI)	6 x 50 discs	Confirmation of ESBL production in isolates with no chromosomal de-repressed or inducible AmpC

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