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Colorex™ ESBL

For overnight detection of Gram-negative bacteria producing Extended Spectrum Beta-Lactamase

Colorex™

Ready to use plates made with the original CHROMagar™ powder base

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Background

ESBL (Extended Spectrum β-Lactamases) are enzymes that mediate resistance to penicillins, extended-spectrum third generation cephalosporins (C3G) and monobactams. ESBL-producing *Enterobacteriaceae* started to appear in the 1980s, and have since emerged as some of the most significant hospital-acquired infections with *Escherichia coli* and *Klebsiella spp.* being the main actors, but other Gram-negative species have also been observed. Emergence of ESBL-producing isolates has important clinical and therapeutic implications:

- Resistance determinants for ESBL production are carried on plasmids that can be easily spread from organism to organism.
- The spread of resistance toward extended-spectrum cephalosporins may lead to increased prescription of more broad-spectrum and expensive drugs.
- These resistant isolates may escape detection with routine susceptibility testing performed by a clinical microbiology laboratory, which can result in adverse therapeutic outcomes.

Therefore, the early detection of ESBL-producing bacteria carriers is important to minimise their impact and the spread of infections and customise therapeutic patient treatment.

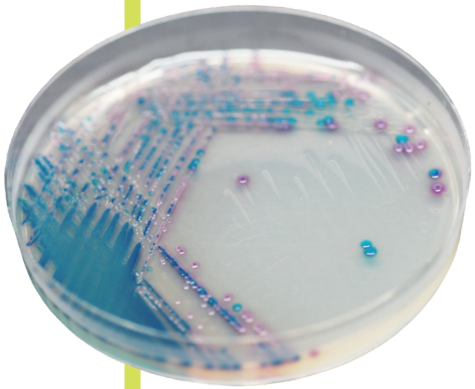

Plate Reading

- *E. coli* ESBL
  → dark pink to reddish
- *Klebsiella, Enterobacter, Citrobacter* ESBL
  → metallic blue (+/- red halo)
- *Proteus* ESBL
  → brown halo
- *Pseudomonas* ESBL
  → translucent cream to blue
- *Acinetobacter* ESBL
  → cream, opaque
- Other
  → inhibited

Medium Performance

Colorex™ ESBL allows the detection of ESBL-producing bacteria while inhibiting the growth of other bacteria, including most of those carrying AmpC type resistance. This is an important feature because intrinsic AmpC resistance has less epidemic relevance, but often leads to ESBL false positive reading in the classical testing methods.
Detection of resistant isolates is difficult based on routine susceptibility testing performed by a clinical microbiology laboratory, while with Colorex™ ESBL:

1. **FAST RESULTS**
   Detection after overnight incubation
2. **SPECIES DIFFERENTIATION**
   thanks to the chromogenic performances of supplemented Colorex™ Orientation. Indeed, the product is composed of a base Colorex™ Orientation and a supplement to enhance ESBL-producing bacteria.
3. **HIGH SENSITIVITY (99.2%*) HIGH SPECIFICITY (89%*)**
   *«Evaluation of a chromogenic medium for extended-spectrum beta-lactamase (ESBL)-producing Enterobacteriaceae» Philippe Lagacé-Wiens et al. University of Manitoba, Canada. ECCMID Poster 2010.
4. **TIME AND WORKLOAD SAVINGS**
   Direct culture from specimen. There is no need of a selective pre-enrichment.
5. **FLEXIBILITY**
   Colorex™ ESBL is supplied with a shelf-life of about 2 years. This allows flexibility of use, whether in an epidemic situation with many patients to screen, or whether for random surveillance of cultures.

Medium Description

Powder Base (Colorex™ Orientation)	Total ..... 33 g/L Agar ..... 15.0 Peptone and yeast extract ..... 17.0 Chromogenic mix ..... 1.0 Storage at 15/30°C - pH: 7.0 +/-0.2 Shelf Life ..... 2 years
+ **Colorex™ ESBL Supplement** (included in the pack)	Selective mix (Powder form) ..... 0.57 g/L Storage at 2/8°C Shelf Life ..... 2 years

Usual Samples	stools, urine
Procedure	Direct Streaking. Incubation 18-24h at 37°C. Aerobic conditions

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