

# Quick & easy screening

direct from clinical samples in just 24 hours

## Brilliance™ ESBL

Detection of Extended Spectrum  $\beta$ -Lactamase-producing organisms

*Brilliance™* ESBL Agar is a chromogenic screening plate for the detection of Extended Spectrum  $\beta$ -Lactamase-producing organisms. The medium provides presumptive identification of ESBL-producing *E. coli* and the *Klebsiella*, *Enterobacter*, *Serratia* and *Citrobacter* group (KESC), direct from clinical samples.

### Saves Time

- Presumptive identification of ESBL-producing *E. coli* and the KESC group in just 24 hours, direct from sample

### Convenient & Easy to Use

- Quick and easy screening test, ready to use plates with a new semi-opaque background\*
- Clear differentiation of *E. coli* and KESC group colonies
- Direct inoculation from faecal sample, swab, isolate or suspension

### Selective

- The inclusion of cefpodoxime, a well recognised marker for ESBL mediated resistance, inhibits most non-ESBL Enterobacteriaceae
- Inhibition of AmpCs, reduces incidence of false-positive results compared to traditional media, minimising confirmatory testing

### Cost-effective

- Early presumptive identification of ESBLs allows appropriate treatment and infection control procedures to be adopted earlier, improving treatment outcomes and the effectiveness of infection control measures



Oxoid *Brilliance* ESBL Agar contains cefpodoxime, in combination with additional antibacterial agents, to inhibit non-ESBL Enterobacteriaceae and to suppress the growth of most AmpC organisms and other non-ESBL flora. The presence of an ESBL infection severely limits treatment options as the resistance mechanisms confer wider resistance than AmpCs, which may still be treated with certain beta-lactamase-stable antibiotics. In addition to this, ESBL resistance genes are encoded on freely transmissible genetic elements, greatly increasing the risk of spread to other organisms.

Differentiation of the most prevalent ESBL-producing organisms is achieved through the inclusion of two chromogens that specifically target two enzymes: KESC group express galactosidase, resulting in green colonies. *E. coli* however, express galactosidase and glucuronidase producing easily-distinguished blue colonies (beta-galactosidase negative *E. coli* will appear pink). *Proteus*, *Morganella* and *Providencia* do not utilise either chromogen, but are able to deaminate tryptophan, resulting in tan-coloured colonies with a brown halo.

*Brilliance* ESBL Agar has recently been selected by MOSAR, the FP6 EC funded project co-ordinated by the French Inserm, for use in a pioneering European ESBL prevalence study.

\*Patent pending

**Thermo**  
SCIENTIFIC

## Performance

ESBLs are defined as transferable enzymes, able to hydrolyse third and fourth-generation cephalosporins but which may be inhibited by clavulanic acid. Unlike MRSA or VRE, the resistance mechanisms of ESBLs are not limited to one or even two species but rather a whole family of organisms, the Enterobacteriaceae.

Enterobacteriaceae have become one of the most important causes of nosocomial and community-acquired infections. The main therapeutic choices to treat such infections are  $\beta$ -lactam antibiotics (mainly broad spectrum penicillins and cephalosporins). However, ESBLs confer transmissible resistance to these compounds. The lack of treatment options combined with the transmissible nature of ESBL resistance mechanisms and the alarming rate at which they have spread results in a significant threat to global public health.

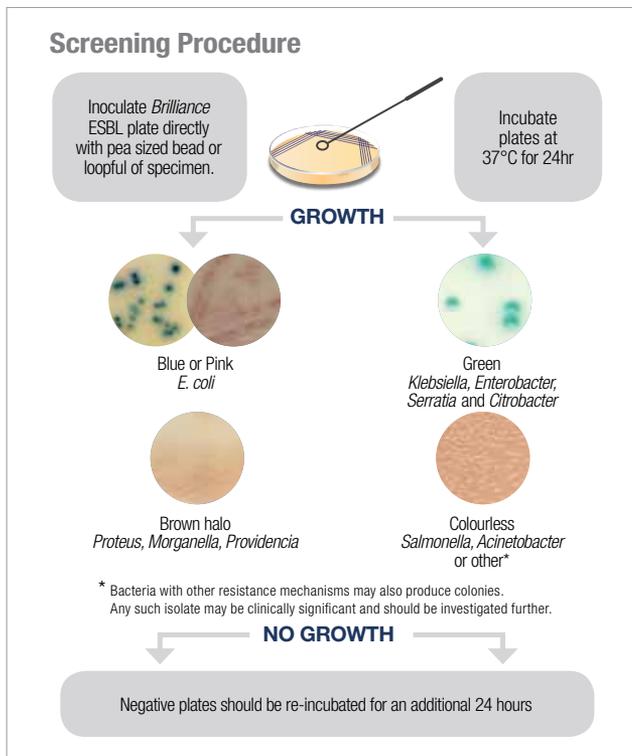
*Brilliance* ESBL Agar was evaluated in-house using a selection of 123 well-characterised clinical isolates provided by Dr. Maurine A. Leverstein-Van-Hall (Utrecht)<sup>1</sup>, Professor Youri Glupczynski (UCL Mont-Godinne)<sup>2</sup> and the Oxoid in-house culture collection. The panel included CTX-M, TEM, SHV and K1-hyper-producing strains. Results indicate K1-hyper-producing (non-ESBL) strains were inhibited while all representative ESBL strains grew.

<i>Brilliance</i> ESBL Agar	Sensitivity	Selectivity	PPV	NPV
	95%	94%	93%	94%

Based on growth or inhibition at 24 hours<sup>3</sup>

Oxoid *Brilliance* ESBL Agar is for *in vitro* diagnostic use only, by trained microbiologists. It must not be used beyond the stated expiry date, or if the product shows any sign of deterioration.

Identifications are presumptive and should be confirmed.



Please note, organisms with an atypical enzyme pattern may give anomalous reactions on *Brilliance* ESBL Agar.

<sup>†</sup> ATCC Licensed Derivative<sup>®</sup> The ATCC Licensed Derivative Emblem, the ATCC Licensed Derivative word mark, and the ATCC catalog marks are trademarks of ATCC. Thermo Fisher Scientific is licensed to use these trademarks and to sell products derived from ATCC<sup>®</sup> cultures. Look for the ATCC Licensed Derivative<sup>®</sup> Emblem for products derived from ATCC<sup>®</sup> cultures.

[thermoscientific.com/microbiology](http://thermoscientific.com/microbiology)

© 2013 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are property of Thermo Fisher Scientific Inc., and its subsidiaries.

### Contact Information:

International  
+44 (0) 1256 841144  
oxid.info@thermofisher.com

1283/MS/03/09

## Oxoid *Brilliance* Agar Ready-Poured Plates

Order Information		
Description	Packaging	Ref
<i>Brilliance</i> ESBL Agar	10x90mm plates	P05302A

### Other Products in the *Brilliance* Screening Range

The Oxoid product range offers the complete solution for all your ESBL screening and testing needs.

Order Information		
Description	Packaging	Ref
<i>Brilliance</i> MRSA 2 Agar (UK)	10x90mm plates	P01210A
<i>Brilliance</i> MRSA 2 Agar (Rest of Europe)	10x90mm plates	P05310A
Chromogenic screening plate with results in just 18 hours and the highest PPV of any MRSA screening product		
<i>Brilliance</i> VRE Agar	10x90mm plates	P01175A
Chromogenic screening plate with presumptive identification of <i>E. faecium</i> and <i>E. faecalis</i> in 18-24 hours		
<i>Brilliance</i> CRE Agar	10x90mm plates	P01226A
For simple screening of carbapenem-resistant Enterobacteriaceae, including NDM-1		

### Culti-Loops<sup>™</sup>

Positive Control Strain <i>Klebsiella pneumoniae</i> (ESBL) ATCC <sup>®</sup> 700603 <sup>™†</sup>	5 loops	CL3074
Negative Control Strain <i>E. coli</i> ATCC <sup>®</sup> 25922 <sup>™†</sup>	5 loops	CL7050

### Biochemical Identification

Thermo Scientific <sup>™</sup> RapID <sup>™</sup> One System	20 test panels	R8311006
RapID Inoculation Fluid	20x2mL	R8325106
RapID Spot Indole	15mL	R8309002
Rapid and convenient biochemical identification of Gram-negative bacilli in just 4 hours		
Oxidase Sticks	100 sticks	BR0064A
For the detection of oxidase positive bacteria		

For more information about the Thermo Scientific *Brilliance* range of chromogenic media and other products, please visit [www.thermoscientific.com/microbiology](http://www.thermoscientific.com/microbiology) or talk to your local representative.

### References:

1. Dr. Maurine Leverstein-van-Hall Clinical Microbiologist, University Medical Centre Utrecht (UMCU)/National Institute for Public Health and Environment (RIVM), Netherlands.
2. Professor Youri Glupczynski, University Clinic of the Catholic University of Louvain (UCL) Mont-Godinne, Belgium.
3. Data on file at Oxoid.

**Thermo**  
SCIENTIFIC  
Part of Thermo Fisher Scientific