# 55806 ESBL *ChromoSelect* Agar Base

ESBL *ChromoSelect* Agar Base is recommended for selective isolation Extended-Spectrum ß-lactamase-producing Enterobacteriaeceae.

**Composition:**

| Ingredients | Grams/Litre |
|---|---|
| Peptone mix | 12.0 |
| Chromogenic mixture | 4.0 |
| Sodium chloride | 5.0 |
| Buffer mix | 4.0 |
| Agar | 15.0 |
| Final pH 6.8 ± 0.2 at 25°C | |

Store at 2-8°C and the prepared medium at 2-8°C. Use before expiry date on the label.

| | |
|---|---|
| Appearance: | Cream to faint beige to yellow, homogeneous, free flowing powder. |
| Gelling: | Firm |
| Color and Clarity: | Yellow colored, opalescent gel forms in Petri plates. |

**Directions:**
Suspend 40 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and add rehydrated contents of two vials of ESBL *ChromoSelect* Selective Supplement (Cat. No. 61471). Mix well and pour into sterile Petri plates.

**Principle and Interpretation:**
Extended-spectrum ß-lactamase (ESBL)-producing organisms are an increasing challenge for healthcare practitioners fighting healthcare-associated infections (HAIs). *Escherichia coli, Klebsiella pneumoniae*, and *Klebsiella oxytoca* are the most common ESBL-producing pathogens (1). ESBL-producing organisms are generally resistant to many classes of antibiotics, including aminoglycosides and fluoroquinolones; ESBL-producing organisms are able to attack newer cephems and monobactams as well as narrow-spectrum cephalosporins and antigram-negative penicillins (1). They are associated with increased mortality and are difficult to detect and treat. The widespread use of extended-spectrum, third-generation cephalosporins, introduced in the 1980s to treat antibiotic-resistant bacteria, is believed to be a major contributor to the emergence of ESBL-producing organisms.
ESBL *ChromoSelect* Agar Base is chromogenic screening medium for the selective isolation of ESBL producing organisms. It contains peptone mix and yeast extract, which serves as the carbon and nitrogen sources and contains other essential growth nutrients. Chromogenic mixture is used to differentiate the ESBL producing organisms on the basis of colour. ESBL *ChromoSelect* Selective Supplement helps in inhibition of other contaminating organisms. ESBL producing *E.coli* grow as either pink or purple colonies. ESBL producing members of the KESC group produce bluish green colonies. *Proteus*, *Morganella* and *Providencia* species do not utilize any chromogenic substrate resulting in colorless to light brown colonies. Sodium chloride is maintaining the osmotic balance and the buffer mix keep the pH stable. Agar is the solidifying agents in the medium.
This medium can be inoculated with liquid suspension equivalent to 0.5 McFarland turbidity, prepared from rectal screening swabs, faecal samples or from isolated colony. Isolated colonies should not be directly plated on to this medium, because the high level inoculum may cause false positive results. Further confirmation using biochemical identification tests is recommended.

Cultural characteristics with ESBL *ChromoSelect* Selective Supplement after 24 hours at 35-37°C.

| Organisms (ATCC) | Inoculum [CFU] | Growth | Recovery [%] | Colony appearance |
|---|---|---|---|---|
| *Escherichia coli* (NCTC 13351) | 50-100 | +++ | ≥50 | Pink to purple |
| *Klebsiella pneumoniae* (700603) | 50-100 | +++ | ≥50 | Bluish green |
| *Enterobacter cloacae* (13090) | $\geq 10^3$ | - | 0 | - |
| *Citrobacter freundii* (8581) | $\geq 10^3$ | - | 0 | - |
| *Candida albicans* (10231) | $\geq 10^3$ | - | 0 | - |

References:


1. Journal of Clinical Microbiology, Page 501-505, Vol. 45, No. 2 (February 2007)


**Precautions and Disclaimer**
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.