16636 UTI *ChromoSelect* Agar, modified (Urinary Tract Infection *ChromoSelect* Agar, modified)

UTI *ChromoSelect* Agar is chromogenic differential medium for identification, differentiation and conformation of enteric bacteria from specimens such as urine, water or food which may contain large number of *Proteus* species as well as potentially pathogenic gram-positive organisms. Based on these characteristics Modified UTI *ChromoSelect* Agar is suggested for use in place of MacConkey Agar.

Composition:

Ingredients	Grams/Litre
Peptic digest of animal tissue	18.0
Casein enzymic hydrolysate	4.0
Beef extract	4.0
Chromogenic mixture	12.44
Agar	15.0
Final pH (at 25°C) 7.2 +/- 0.3	

Store prepared media below 4 °C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 4 °C.

Directions:
Suspend 55.4 g in 1 litre distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 1 bar pressure (121 °C) for 15 minutes. Cool to 50 °C and pour into sterile petri plates.

Principle and Interpretation:
The UTI *ChromoSelect* Agar is formulated on the basis of work carried out by Pezzlo [1], Wilkie et al [2], Friedman et al [3], Murray et al [4], Sarino and Ponte [5] and Marino et al [6]. It facilitates and expedites the identification of some gram-negative bacteria and some gram-positive bacteria on the basis of different contrasted colony colors produced by reaction of genus or species specific enzymes with two chromogenic substrates.
The chromogenic substrates are cleaved by enzymes produced by *Enterococcus* species, *Escherichia coli* and coliforms. Presence of rich source of phenylalanine and tryptophan from peptone and tryptone provides an indication of tryptophan deaminase activity, revealed with TDA reagent (Cat. No. 80353) indicating the presence of Proteus species, Morganella species and Providencia species which appear brown. One chromogenic substrate is cleaved by β-glucosidase possessed by Enterococci resulting in formation of blue colonies. *Escherichia coli* produce pink-red colonies due to the enzyme β-D-galactosidase which cleaves the other chromogenic substrate. Further confirmation of *Escherichia coli* can be done by performing indole test using DMACA Reagent (Cat. No. 49825). Also some strains of *Enterobacter cloacae* lacking β-glucosidase show pink colonies indistinguishable from *Escherichia coli*. The DMACA Reagent for indole test (should be performed on filter paper) distinguishes between *Escherichia coli* and *Enterobacter*, and also between *Proteus mirabilis* and other species. Coliforms produce purple colored colonies due to the cleavage of both the chromogenic substrate.

Peptic digest of animal tissue, beef extract and casein enzymic hydrolysate provides nitrogenous carbonaceous compounds and other essential growth nutrients.

Cultural characteristics after 24 hours at 35-37 ºC.

Organisms (ATCC)	Growth	Color of colony	TDA	DMACA
Escherichia coli (25922)	+++	pink-red	-	+
Proteus mirabilis (10975)	+++	light brown	+	-
Klebsiella pneumoniae (13883)	+++	blue to purple (mucoid)	-	-
Pseudomonas aeruginosa (27853)	+++	colorless	-	-
Staphylococcus aureus (25923)	+++	golden yellow	-	-
Enterococcus faecalis (29212)	+++	blue (small)	-	-

References:

1. M. Pezzlo, Clinical Microbiology Reviews 1, 268-280 (1998)
2. M.E. Wilkie, M.K.. Almond, F.P. Marsh, British Medical Journal 305, 1137-1141 (1992)
3. M.P. Friedman et al, Journal of Clinical Microbiology 29, 2385-2389 (1991)
4. P. Murray, P. Traynor, D. Hopson, Journal of Clinical Microbiology 30, 1600-1601 (1992)
5. F. Soriano, C. Ponte, Journal of Clinical Microbiology 30, 3033-3034 (1992)
6. Merlino et al (1995), Abstr. Austr. Microbiol. 16(4), 17-3 (1995)

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.