

85927 ECC ChromoSelect Selective Agar

ECC ChromoSelect Selective Agar is recommended for detection of *Escherichia coli* and coliforms in water and food samples.

Composition:

Ingredients	Grams/Litre
Peptone, special	6.0
Casein enzymic hydrolysate	3.3
Sodium dihydrogen phosphate	0.6
Disodium hydrogen phosphate	1.0
Sodium chloride	2.0
Sodium pyruvate	1.0
Tryptophan	1.0
Sorbitol	1.0
Tergitol 7®	0.15
Chromogenic mixture	0.43
Agar	10.0
Final pH (at 25°C) 6.8 ± 0.2	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:

Suspend 26.5g in 1 litre distilled water. Heat in a boiling water bath or in a free flowing steam, with stirring to dissolve the medium completely (approximately 35 minutes). DO NOT AUTOCLAVE OR OVERHEAT. Medium may show haziness, but it does not affect the performance. If desired to inhibit *Pseudomonas* and *Aeromonas* species, add 5 mg Cefsulodin (Cat. No. C8145) for surface and pour plate method and 10 mg Cefsulodin for membrane filter technique. Mix well.

Principle and Interpretation:

ECC ChromoSelect Selective Agar is a selective medium recommended for the simultaneous detection of *Escherichia coli* and total coliforms in water and food samples. The Peptone special, Casein enzymic hydrolysate, sodium pyruvate and sorbitol provide nitrogenous substances fermentable carbohydrate and other essential growth nutrients for the organisms. Phosphates buffer the medium well. The above ingredients help even the sublethally injured coliforms to grow rapidly. Tergitol inhibits gram-positive as well as some gram-negative bacteria other than coliforms. The chromogenic mixture contains two chromogenic substrates as Salmon-GAL and X- glucuronide. The enzyme β-D-galactosidase produced by coliforms cleaves Salmon- GAL, resulting in the salmon to red colouration of coliform colonies. The enzyme B-D- glucuronidase produced by *Escherichia coli*, cleaves X-glucuronide. *Escherichia coli* forms dark blue to violet coloured colonies due to cleavage of both Salmon-GAL and X- glucuronide. The addition of Tryptophan improves the indole reaction. The medium is inoculated either by pour plate technique or by spreading the sample on the surface of plated medium. Membrane filter technique can also be used. To confirm *Escherichia coli*, add a drop of Kovac's reagent (Cat. No. 60983) on the dark-blue to violet colony. Formation of cherry-red colour indicates the positive reaction.



Cultural characteristics after 24 hours at 35-37°C.

Organisms (ATCC)	Inoculum	Growth	Recovery	Colour of colony	Salmon GAL	X-Glucuronide	Indole
<i>Escherichia coli</i> (25922)	50-10	++/+ ++	≥ 50%	dark blue to violet	+	+	+
<i>Escherichia coli</i> 0157:H7 (NCTC 12900)	50-10	+++	≥ 50%	salmon to red	+	-	+
<i>Citrobacter freundii</i> (8090)	50-10	+++	≥ 50%	salmon to red (big)	+	-	-
<i>Enterobacter aerogenes</i> (13048)	50-10	+++	≥ 50%	salmon to red	-	-	-
<i>Salmonella enteritidis</i> (13076)	50-10	++	≥ 50%	colourless	-	-	-
<i>Shigella flexneri</i> (12022)	50-10	++	≥ 50%	Light blue to turquoise	+	-	-
<i>Enterococcus faecalis</i> (29212)	≥10 ³	-	0%	inhibited	-	-	-

References:

1. Frampton E.W., Restaino L. and Blaszkowski N, 1988, J. Food Prot., 51:402.
2. Kilian M. and Bülow P., 1976, Acta. Pathol. Microbiol. Scand., Sect. B, 84:245.
3. Le Minor L. and Hamida F., 1962, Ann. Inst. Pasteur (Paris), 102:267.
4. Manafi M. and Kneifl W., 1989, Zentralbl. Hyg., 189:225.

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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.

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