



HAL008 Harlequin™ E.coli / Coliform Medium

Description

This dual chromogenic substrate medium has been developed for the simultaneous enumeration of *Escherichia coli* and coliforms in food and environmental samples. The different colony types are simple to distinguish allowing rapid counting of both *E. coli* and coliforms on a single medium.

Based upon the formulation of Tryptone Bile Agar LAB072, the medium has been modified by the addition of two chromogenic substrates, one to detect the β -glucuronidase enzyme (X-glucuronide) and another to detect the β -galactosidase enzyme (magenta- β -gal). Typical *E. coli* strains possess both enzymes but only cleave the X-glucuronide substrate, thereby producing blue-green colonies. Typical coliforms, however, possess only the β -galactosidase enzyme and produce rose-pink colonies.

The colony types are easily distinguishable, even in the presence of other organisms, or when large numbers are observed, making simultaneous enumeration of *E. coli* and coliforms a quick and simple procedure.

N.B. This product is not available for sale in the USA.

Formulation

	g/litre
Tryptone	20.0
Bile salts No.3	1.5
X-glucuronide	0.075
Magenta- β -galactoside	0.1
Agar	15.0
Grams per litre	36.6

Appearance

Powder: fine, free-flowing, homogeneous, buff
Finished medium: clear, straw gel

pH: 7.2 \pm 0.2

Hazard classification

NR – Not regulated

Method for reconstitution

Weigh 36.6 grams of powder and disperse in 1 litre of deionised water. Allow to soak for 10 minutes, swirl to mix and sterilise by autoclaving for 15 minutes at 121°C. Cool to 47°C and mix well before dispensing into Petri dishes. Dry the agar surface prior to use.

Storage

Dehydrated culture media: 10-25°C away from direct sunlight.
Prepared media: 7 days at 2-8°C in the dark.

Inoculation

Inoculate 0.5 ml of a 1:10 dilution of the sample and spread over the entire surface of the plate. Further dilution may be necessary if large numbers of *E. coli* and/or coliforms are present, to ensure colonies can be easily counted.

Incubation

Incubate at 37°C for 18-24 hours.



Interpretation

Count all blue-green colonies as presumptive *E. coli*, and calculate the cfu/g. Count all rose-pink colonies as presumptive coliforms, and calculate cfu/g.

Organism	Colony size (mm)	Shape & surface	Colour
<i>Escherichia coli</i>	0.1 – 2.0	Convex, entire, glossy	Blue-green
<i>Enterobacter aerogenes</i>	1.5 – 2.5	Convex, entire, glossy	Rose-pink
<i>Pseudomonas aeruginosa</i>	0.5 – 1.0	Flat, crenated, dull / Convex, entire, glossy	Buff
<i>Enterococcus faecalis</i>	No growth		
<i>Staphylococcus aureus</i>	No growth		

Minimum Q.C. organisms

Escherichia coli ATCC 25922

Enterobacter aerogenes ATCC 13048

Staphylococcus aureus ATCC 25923 (inhibited)

References

Baylis, C.L., Patrick, M. (1999). *Comparison of a range of Chromogenic media for enumeration of total Coliforms and Escherichia coli in foods*. Leatherhead International Technical Notes. No.135: 99.