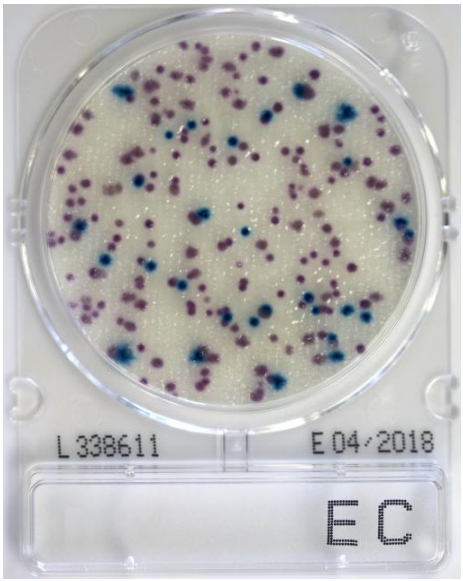
CompactDry™ EC Interpretation Guide



CompactDry EC
EC : *Escherichia coli* & Coliform Count
Certification : AOAC-PTM, MicroVal, NordVal, AFNOR

[Features]
This culture medium allows for the differentiation and measurement of *Esherichia coli* and coliform bacteria using two types of chromogenic enzyme substrates (X-Gluc, Magenta-GAL).

[Interpretation]
Incubation temperature 35±1℃(raw meat products) or 37±1℃(all other matrices)
Incubation time 24±2hours

E. coli, using its specifically produced β-glucuronidase, hydrolyzes the chromogenic substrate X-GLUC (5-bromo-4-chloro-3-indolyl-β-D-glucuronide) to produce a blue pigment, forming blue to bluish-purple colonies. Other coliforms, using β-galactosidase, hydrolyzes the chromogenic substrate MAGENTA-GAL (5-bromo-6-chloro-3-indryl-β-D-galactopyranoside) to produce a red pigment, forming pink to reddish-purple colonies. The number of coliform colonies is the total number of blue and red colonies.

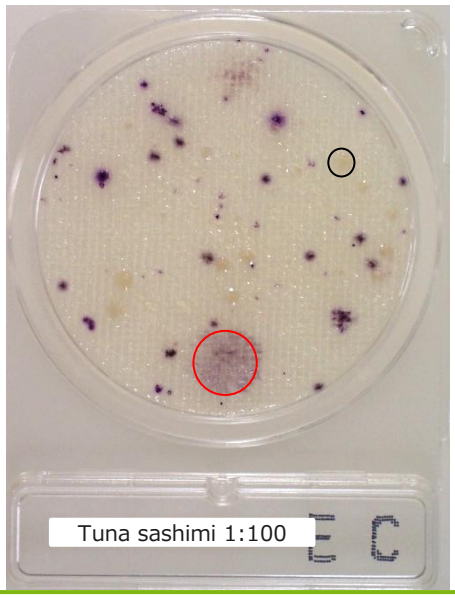
Colony coloration by chromogenic substrates


Ground chicken breast 1:1000


Ground chicken breast 1:10000

←Ground chicken breast:
At a 1:1,000 dilution, blue *E. coli* colonies can be observed among the numerous coliform colonies. For *E. coli* enumeration, the 1:1,000 dilution should be used. For coliform enumeration, a higher dilution of 1:10,000 is required.

Due to the large number of lactic acid bacteria (β-galactosidase producers) in yogurt, the entire sheet turns reddish-purple within tens of minutes of sample inoculation, without waiting for bacterial growth. This method is unsuitable for testing foods containing large amounts of such specific enzymes. ↓


Tuna sashimi 1:100

← Q1.: Should yellow (brown) colonies, like those indicated by the black circle, be counted?
A1.: Colonies that do not show coloration due to the chromogenic substrate are not to be counted. They are likely Gram-negative bacilli other than *E. coli* and coliform bacteria.
Q1.: What about faint, spread colonies, like those indicated by the red circle?
A1.: Colonies with faint red coloration should also be counted.

Important Point!
Intermediate colored colonies, a mixture of blue and red, may appear. If the blue color is present compared to other red colonies on the same sheet, it indicates that β-glucuronidase is being produced, and the colony should be identified as *E. coli*.


Yogurt 1:10

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