



HiSelective™ *E. coli* Test Kit

K023

HiSelective *E. Coli* Test Kit is recommended for the rapid detection and confirmation of *Escherichia coli* based on enzyme-substrate reaction from water samples.

Introduction :

The procedures for microbiological examinations of water samples to determine sanitary quality include test for detection and enumeration of indicator organisms. The coliform group of bacteria, especially *Escherichia coli* is the principle indicator. Various methods for the differentiation of the coliform group are included in standard procedures. Such differentiation however is of limited value in assessing drinking water quality because the presence of any coliform bacteria renders the water potentially unsatisfactory and unsafe. Thus the detection of *Escherichia coli* in water samples provide qualitative appraising of the sanitary quality of water and the effectiveness of treatment process.

Tests for *Escherichia coli* are applicable for the analysis of drinking water, surface and ground water and waste water. *Escherichia coli* is a member of the indigenous fecal flora of warm-blooded animals. The occurrence of *Escherichia coli* is considered a specific indicator of fecal contamination and the possible presence of enteric pathogens.

Directions :

1. Collect 100 ml water to be tested in sterile disposable bottle.
2. Add entire quantity of medium by swirling to dissolve the powder completely.
3. After dissolution, incubate the bottle for 24 – 48 hours at 35 – 37°C.
4. Observe the colour change of the medium from light yellow to blue indicating the presence of *Escherichia coli*. Coliforms other than *Escherichia coli* give red colour due to presence of indicator.

Principle and Interpretation :

HiSelective *E. Coli* Test Kit is used for detection and differentiation of *Escherichia coli*. It is based on Tryptone Bile Agar used for detection of *Escherichia coli* in foods (1) where recovery of *Escherichia coli* is faster, more reliable and accurate.

The medium contains chromogenic mixture which helps to detect glucuronidase activity of *Escherichia coli* (2). This specific enzyme differentiates *Escherichia coli* from other coliforms. *Escherichia coli* cells split the chromogenic mixture with the help of

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glucuronidase to give blue colouration to the colonies. Coliforms other than *Escherichia coli* give red colour due to presence of indicator. Thus, the resulting colour distinction allows simple interpretation of test without further confirmation. Casein enzymic hydrolysate provide the essential growth nutrients to the organisms. Bile salts inhibit gram-positive organisms.

Quality Control :**Appearance of Powder :**

Light yellow to pink coloured, homogeneous, free flowing powder.

Colour and Clarity :

Light yellow coloured, clear solution.

Cultural Response :

Cultural characteristics after 18-24 hours at 35-37°C

Organisms (ATCC)	Growth	Colour of Medium
<i>Escherichia coli</i> (25922)	luxuriant	blue
<i>Enterobacter aerogenes</i> (13048)	luxuriant	red
<i>S. aureus</i> (25923)	fair to good	colourless to pink

References :

1. Anderson J. M. and Baird Parker A.C., 1975, J. Appl. Bact., 39:111.
2. Hansen W. and Yourassawsky E., 1984, J. Clin. Microbiol. 20:1177.

Storage and Shelf Life:

On receipt store between 2-8°C. It has shelf life of 3 years.

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Disclaimer :

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