Bactident® E. coli

Test kit for the rapid identification of E. coli.

β-D-Glucuronidase activity is a specific marker for E.coli as fas as the Enterobacteriaceae are concerned; it can otherwise only be detected in a few Salmonella and Shigella species. 94% of all E.coli strains possess the enzyme (FENG and HARTMANN 1982, HANSEN and YOURASSOWSKY 1984). Tryptophanase activity (i.e. the ability to form indole from tryptophan) is present in 99% of all E.coli strains. Detection of both enzymes is a reliable indicator for the presence of E.coli.

Mode of Action

The test kit contains the strips whose reaction zones are impregnated with 4-methylumbelliferyl-β-D-glucuronide (MUG). β-D-Glucuronidase cleaves this substrate form 4-methylumbelliferone with fluorescens light blue when excited with long-wavelength UV light (about 366 nm) and thus indicates that the enzyme is present.

Indole formation is indicated, if the bacterial suspension turns red on addition of KOVÁCS' reagent (see KOVÁCS' Indole Reagent, Merck, Cat. No. 109293.).

Typical Composition

50 test strips, 50 reaction cuvettes; 1 tray for holding the reaction cuvettes; 1 dropper bottle filled with KOVÁCS' reagent.

Experimental Procedure and Evaluation

Remove an isolated colony from the culture medium with a loop, suspend thoroughly in a reaction cuvette containing 200µl water and place a test strip in the suspension. Incubate for 30-120 minutes at 37°C and then evaluate with a UV lamp (e.g. UV lamp, Merck, Cat. No. 1.13203.). Subsequently add one drop of KOVÁCS' reagent to the suspension and leave the react for 1-2 minutes.

If the bacterial suspension displays light blue fluorescence in UV light and shows a red ring after addition of KOVÁCS' reagent, it is positive for E.coli.

Literature

FENG, P.C.S., a. HARTMANN, F.P.: Fluorogenic assay for immediate confirmation of E.coli. **- Appl. Environm. Microbiol. 43**; 1320-1329 (1982).

GEISS, H.K., u. ZAHRAN, M.: Schnellidentifizierung von E.coli durch Enzymnachweis. **- Lab. med., 11**; 251-252 (1987).

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GLAESER, H.: Differenzierung coliformer Keime aus Weichkäse - Methoden und Ziele. **- dmz, 27** ; 870-873 (1987).

HANSEN, W., a. YOURASSOWSKY, E.: Detection of β-Glucuronidase in Lactose-Fermenting Membres of the Family Enterobacteriaceae and its Presence in Bacterial Urine Cultures. **- J. Clin. Microbiol., 20**; 1177-1179 (1984).

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Ordering Information

Product	Merck Cat. No.	Pack size
Bactident® E. coli	1.13303.0001	1 x 50 tests