

Fluorocult® ECD Agar

E. coli Direct Agar

The medium complies with the German-DIN-Norm 10110 for the examination of meat, with the regulations acc. to § 35 LMBG (06.00/36) for the examination of food and with ISO Standard 6391 (1996) for the enumeration of *E. coli* in meat and meat products.

Mode of Action

The bile salt mixture of this *E. coli* Direct Agar largely inhibits the accompanying flora not usually found in the intestines. Using fluorescence under UV light and a positive indole reaction, *E. coli* colonies can be identified among the grown colonies.

Typical Composition (g/litre)

Peptone from casein 20.0; lactose 5.0; sodium chloride 5.0; bile salt mixture 1.5; di-potassium hydrogen phosphate 4.0; potassium dihydrogen phosphate 1.5; agar-agar 15.0; tryptophan 1.0; 4-methylumbelliferyl- β -D-glucuronide 0.07.

Preparation

Suspend 53.1 g/litre, autoclave (15 min at 121 °C), pour plates. pH: 7.0 \pm 0.2 at 25 °C.

The prepared broth is clear and yellowish brown.

Experimental Procedure and Evaluation

The culture medium is inoculated in the usual way by streaking on the surface and uncubated for 18-24 hours at 44 °C aerobically.

Fluorescence is noted with a UV lamp: light blue fluorescing colonies identify *E. coli*.

For confirmation cover the colonies with 10-20 μ l KOVACS indole reagent, e.g. using Bactident® Indole. A reddening after 2-10 seconds shows indole formation.

Literature

Bundesgesundheitsamt: Amtliche Sammlung von Untersuchungsverfahren nach § 35 LMBG. - Beuth Verlag Berlin, Köln

DIN Deutsches Institut für Normung e.V.: Mikrobiologische Fleischuntersuchung. Bestimmung der *Escherichia coli*. Fluoreszenzoptisches Koloniezählverfahren unter Verwendung von Membranfiltern/ Spatelverfahren (Referenzverfahren). **DIN 10110**.

Draft International Standard ISO/DIS 6391: Meat and meat products - Enumeration of *Escherichia coli*-colony-count technique at 44 °C using membranes (1996).

Quality control

Test strains	Growth / Reovery rate %	MUG	Indole
<i>Escherichia coli</i> ATCC 8739	> 70	+	+
<i>Escherichia coli</i> ATCC 25922	> 70	+	+
<i>Enterobacter aerogenes</i> ATCC 13048	good / very good	-	-
<i>Klebsiella pneumoniae</i> ATCC 13883	good / very good	-	-
<i>Citrobacter freundii</i> ATCC 8090	good / very good	-	-
<i>Proteus mirabilis</i> ATCC 14153	good / very good	-	-
<i>Pseudomonas aeruginosa</i> ATCC 27853	good / very good	-	-
<i>Clostridium perfringens</i> ATCC 10543	none / poor (anaerobic)	-	-

Ordering Information

Product	Merck Cat. No.	Pack size
Fluorocult® ECD Agar	1.04038.0500	500 g
Bactident® Indole (dropper bottle)	1.11350.0001	1 x 30 ml
KOVÁCS Indole Reagent	1.09293.0100	100 ml
UV Lamp (366 nm)	1.13203.0001	1 ea



Escherichia coli
ATCC 25922