CATC Agar (Citrate Azide Tween® Carbonate) Base

Selective agar proposed by BURKWALL and HARTMANN (1964) and modified by REUTER (1968) for the identification of enterococci in meat, meat products, dairy products and other foodstuffs.

In a series of comparative studies performed by BELZER (1983), the best results were obtained with CATC agar.

Mode of Action

The high concentrations of citrate and azide almost completely inhibit the growth of the accompanying microbial flora. Enterococci reduce the colourless 2,3,5-triphenyltetrazolium chloride to a red formazan, their colonies thus become red in colour.

Typical Composition (g/litre)

Peptone from casein 15.0; yeast extract 5.0; potassium dihydrogen phosphate 5.0; sodium citrate 15.0; polyoxyethylene sorbitanmonooleate (Tween® 80) 1,0; agar-agar 15.0.

Also to be added:

Sodium carbonate 2.0; 2,3,5-triphenyltetrazolium chloride 0.1; sodium azide 0.4

Preparation

Suspend 56 g/litre, autoclave (15 min at 121 °C). At a temperature of 50 °C mix in 20 ml of a 10 % sodium carbonate solution/litre, 10 ml of a 1 % 2,3,5-triphenyltetrazolium chloride solution/litre and 4 ml of a 10 % sodium azide solution/litre, each filter-sterilized. Pour plates.

pH: 7.0 ± 0.2 at 25 °C.

The plates are clear and yellow.

Experimental Procedure and Evaluation

Inoculate by spreading the sample material thinly on the surface of the culture medium.

Incubation: 24 hours at 35 °C, aerobically.

Appearence of Colonies	Microorganisms
Red	Ent. faecalis, Ent. faecium, Str. zymogenes, Str. liquefaciens
Colourless	Accompanying microorganisms

Literature

BELZER, R.: Vergleichende Untersuchungen von Enterokokkenselektivnährböden. – Inaug. Dissert., Univ. München, 1983.

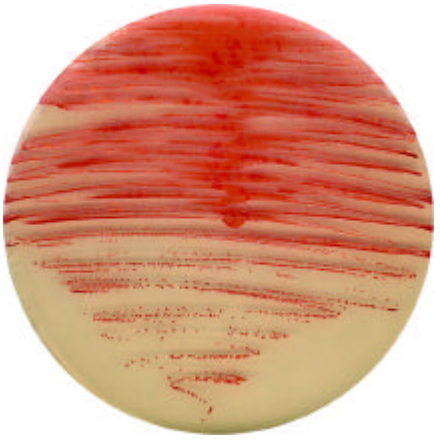
BURKWALL, M.K., a. HARTMAN, P.A.: Comparison of direct plating media for the isolation and enumeration of enterococci in certain frozen foods. – Appl. Microbiol., 12; 18-23 (1964).

REUTER, G.: Erfahrungen mit Nährböden für die selektive mikrobiologische Analyse von Fleischerzeugnissen. – Arch. f. Lebensmittelhyg., 19; 53-57 and 84-89 (1968).

SARASWAT, D.S., CLARK, W.S. Jr., a. REINBOLD, G.W.: Selection of medium for the isolation and enumeration of enterococci in dairy products. – J. Milk Food Techn., 26; 114-118 (1963).

Ordering Information

Product	Merck Cat. No.	Pack size
CATC Agar (Citrate Azide Tween® Carbonate) Base	1.10279.0500	500 g
2,3,5-Triphenyltetrazolium chloride	1.08380.0010	10 g
Sodium azide purified	1.06688.0100	100 g
Sodium carbonate	1.06392.0500	500 g



Enterococcus faecalis ATCC 11700

Enterococcus faecium ATCC 6057

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Quality control

Test strains	Growth	Red colonies
Streptococcus pyogenes ATCC 12344	none	-
Streptococcus agalactiae ATCC 13813	none	-
Enterococcus faecalis ATCC 11700	good	+
Enterococcus faecalis ATCC 33186	good	+
Enterococcus faecium ATCC 6057	good	±
Streptococcus bovis DSM 20065	none / poor	-
Escherichia coli ATCC 25922	none	
Staphylococcus aureus ATCC 25923	none	