PRODUCT INFORMATION

Product Type: Divided Petri Dishes 90mm (DD)

Cat No. DD007 - AESCULIN BILE AGAR / TSA+ 6.5% NACL

Intended Use:

Aesculin Bile Agar - selective and differential culture medium designed for the isolation and presumptive identification of enterococci (faecal streptococci) from clinical, food, water, and environmental samples.
TSA+ 6.5% NaCL - Tryptic Soy Agar (TSA) supplemented with 6.5% NaCl is used for the selective isolation and differentiation of salt-tolerant (halotolerant/halophilic) bacteria, particularly enterococci such as Enterococcus faecalis. This higher NaCl concentration inhibits the growth of most non-halotolerant organisms, allowing only bacteria capable of tolerating or thriving in elevated salt conditions to grow.

Principles and uses:

Aesculin Bile Agar
Selective agents:
Bile salts (oxgall): Inhibit most Gram-positive bacteria other than enterococci and Group D streptococci.
Sodium azide: Inhibits Gram-negative bacteria.
Differential agent:
Esculin: Enterococci and Group D streptococci can hydrolyze esculin to esculetin and dextrose.
Ferric ammonium citrate: Esculetin reacts with ferric ions to produce a dark brown or black complex in the medium around colonies that hydrolyze esculin.
Nutrients:
Casein enzymic hydrolysate, peptone, yeast extract, and sodium chloride provide essential nutrients for bacterial growth.
Aesculin Bile Agar Uses
Isolation and presumptive identification of enterococci from mixed cultures in clinical, food, and environmental microbiology.
Water quality testing: Standard method (e.g., ISO 7899-2) for monitoring enterococcal contamination in water.
Differentiation: Enterococci (and Group D streptococci) grow and produce blackening in the medium; other organisms are inhibited or do not blacken the medium.
Aesculin Bile Agar After incubation:
Positive result: Growth of colonies surrounded by a black or dark brown halo indicating esculin hydrolysis (most commonly with enterococci).
Negative result: No blackening or halo; medium remains its original color or only slight colony growth is observed if non-target bacteria escape inhibition.

TSA+ 6.5% NaCL - High salt concentration (6.5% NaCl):
Selects for organisms capable of tolerating or requiring elevated salt, most notably enterococci and some staphylococci. Most other Gram-positive and Gram-negative bacteria are inhibited or unable to grow.
General nutrients:
Casein and soybean digests, glucose, and other nutrients support robust growth of those salt-tolerant organisms that do survive.
TSA+ 6.5% NaCL Uses
Differentiation of Enterococci:
TSA + 6.5% NaCl is widely used in clinical, food, water, and research microbiology to differentiate enterococci from group D streptococci and other Gram-positive cocci, as enterococci grow robustly at 6.5% NaCl while most *Streptococcus spp*. do not.
Testing halotolerance:
Used as a confirmatory test for salt tolerance or halophilic properties in unknown isolates.
Environmental and food microbiology:
Screens for halotolerant contaminants in foods processed with salt or in saline environments.

Composition:
Aesculin Bile Agar
Tryptone - 17.0 g/L
Peptone - 3.0 g/L
Yeast extract - 5.0 g/L
Oxgall (bile salts) - 10.0 g/L
Sodium chloride - 5.0 g/L
Aesculin - 1.0 g/L
Ferric ammonium citrate - 0.5 g/L
Sodium azide - 0.25 g/L
Sodium citrate - 1.0 g/L
Agar - 13.0 g/L

TSA+ 6.5% NaCL
Tryptone H - 15 g/L
Soytone - 5 g/L
Sodium Chloride - 65 g/L
Agar - 15 g/L

Storage: 15-25°C
Appearance: Aesculin Bile Agar – Light amber, translucent
TSA+ 6.5% NaCL - light amber, slightly opalescent
pH Range: Aesculin Bile Agar - 6.9 - 7.3
TSA+ 6.5% NaCL - 7.0 - 7.2
Package contents: 10 plates in a package
Exp. Date: Printed on label and on the item.
Required materials not supplied: Laboratory equipment as required.

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.
If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation. Storage Instructions: On receipt, store plates in the dark at 2–8°C. Avoid freezing and overheating. Do not open until ready to use.

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Waste Disposal
After interpretation all plates should be destroyed by standard incineration methods.

Performance Testing Results:
Streaking from fresh colony culture

TEST	ATCC	Incubation Temp. (℃)	Incubation Cond.	Reaction 1 AESCULIN		Reaction 2 TSA+NACL
Staphylococcus aureus	25923	33-37 ℃	Aerobic, 24 hours	Poor	Background w/o change	Growth
Enterococcus faecalis	19433	33-37 ℃	Aerobic, 24 hours	Growth	Background becomes black	Growth
Streptococcus uberis	27958	33-37 ℃	Aerobic, 24 hours	Inhibited		/
Streptococcus pyogenes group A	19615	33-37 ℃	Aerobic, 24 hours	Inhibited		Inhibited