

STAA-Agar-Base

CODE: CM881

STAA Selective Supplement

CODE: SR151

STA Selective Supplement

CODE: SR162

A medium for the isolation of *Brochothrix thermosphacta* from food samples.

- **SELECTIVE**

- **Minimises false positives**

Selective action of the antimicrobials suppresses a wide variety of competing organisms.

- **VERSATILE**

- **High flexibility**

Two different formulations of Selective Supplements for compliance with international standards.

- **CONVENIENT**

- **Simple to use**

Preparation with Agar Base and ready to use Selective Supplements.

- **BACKGROUND**

Brochothrix thermosphacta is a Gram-positive, non-motile, facultatively anaerobic rod-shaped micro-organism which occurs singly, in short chains or in long filamentous-like chains. It constitutes a significant proportion of the spoilage flora of meat and meat products stored aerobically or vacuum packed at chill temperatures, and is occasionally the dominant organism. It is therefore responsible for some of the off-odours which signal the onset of spoilage in vacuum packed meat products.

Although *B. thermosphacta* is not considered to be pathogenic, it is an economically important meat-spoilage organism because it grows in a wide variety of meats and meat products and produces malodorous metabolic end products which make affected meat unpalatable¹.

**STAA-Agar-Base
CODE CM881
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• INTENDED USE

A selective medium for the isolation of *Brochothrix thermosphacta* from food samples.

• SUMMARY

STAA Medium (CM881+SR151) is based on the formulation described by Gardner² and is recommended for the microbiological examination of meat and meat products in the ISO Standard 13722:1996. When made up as STA Medium (CM881+SR162) it complies with the method described by the Nordic Committee on Food Analysis (NMKL)³.

• PRINCIPLES

STAA Medium (CM881+SR151) is made selective by the inclusion of streptomycin sulphate, thallos acetate and actidione (cycloheximide). STA Medium (CM881+SR162) is a modification of the original formulation by the removal of the toxic selective agent cycloheximide as recommended by the NMKL. According to this method the medium is applicable for meat, meat products and some fish products.

Streptomycine sulphate inhibits some Gram-positive organisms and most Gram-negatives at higher concentrations, whilst *B. thermosphacta* remains resistant. Thallos acetate inhibits most yeasts as well as many aerobic and facultatively anaerobic bacteria. The incorporation of cycloheximide serves to further inhibit yeasts and filamentous fungi.

• FORMULA

STAA Agar Base (CM881)

	Grams per litre
Peptone	20.0
Yeast extract	2.0
Dipotassium hydrogen phosphate	1.0
Magnesium sulphate	1.0
Agar	13.0

STAA Selective Supplement (SR151E)

Vial contents:

Streptomycin sulphate	250mg
Thallos acetate	25mg
Cycloheximide	25mg

STA Selective Supplement (SR162E)

Vial contents:

Streptomycin sulphate	250mg
Thallos acetate	25mg

Final pH 7.0 +/- 0.2.

• METHOD OF USE

Suspend 18.5 grams of STAA Agar Base (CM881) in 500 ml distilled water and bring gently to the boil to dissolve completely. Add 7.5 grams of glycerol and sterilise by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add:

a.) for STAA Medium the contents of 1 vial of STAA Selective Supplement (SR151E) reconstituted with 2ml of sterile distilled water.

b.) for STA Medium the contents of 1 vial of STA Selective Supplement (SR162E) reconstituted with 2ml of sterile distilled water.

Mix well and distribute into sterile petri dishes.

Homogenise the test sample in sterile 0.1% peptone water or Maximum Recovery Diluent (CM733) and prepare appropriate dilutions. Transfer 0.1ml volumes to the agar plate and spread across the surface. Incubate at 22°C for 48 hours aerobically. Typical colonies of *B. thermosphacta* will grow as straw coloured colonies, 0.5-1.0mm in diameter.

Pseudomonads were able to grow on STAA and STA Media, these may be differentiated from *B. thermosphacta* by performing an oxidase test using Oxoid Oxidase Touch Sticks (BR64). Pseudomonads are oxidase positive.

• APPEARANCE

STAA Agar Base (CM881) is a straw coloured, free flowing powder. STAA Selective Supplement (SR151) and STA Selective Supplement (SR162) are a white freeze dried pellet.

• PRECAUTIONS

STAA Medium (CM881+SR151) and STA Medium (CM881+SR162) should only be used for *in vitro* diagnostic purposes.

Do not use STAA Agar Base (CM881), STAA Selective Supplement (SR151) or STA Selective Supplement (SR162) beyond expiry date or if the products show any signs of deterioration.

STAA Selective Supplement (SR151) contains cycloheximide and thallos acetate and is toxic if swallowed, inhaled or if in contact with skin. STA Selective Supplement (SR162) contains thallos acetate and is toxic if swallowed, inhaled or if in contact with skin.

• STORAGE AND STABILITY

STAA Agar Base (CM881) should be stored tightly capped in the original container at 10-25°C. STAA Selective Supplement (SR151) and STA Selective Supplement (SR162) should be stored in the dark at 2-8°C. When stored as directed, the media will remain stable until the stated expiry date. Prepared medium may be stored for up to two weeks at 2-8°C in the dark.

• QUALITY CONTROL TESTING

Positive Control:

<i>Brochothrix thermosphacta</i>	ATCC 11509 NCTC 10822
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Negative Control:

<i>Enterococcus faecalis</i> 19433	ATCC NCTC 775
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• REFERENCES

1. Sneath, P.H.A and D. Jones (1986) Genus *Brochothrix*. In: *Bergey's Manual of Systematic Bacteriology*, Vol.2, pp.1249-1253. Sneath, P.H.A., Mair, N.S. et al. (eds.). Williams & Wilkins, Baltimore.
2. Gardner, G.A. (1966) *J. Appl. Bacteriol.* **29** (3), 455-460.
3. Nordic Committee on Food Analysis: *Brochothrix thermosphacta*. Determination in Meat and Meat Products, No.141, 1991.