PRODUCT CODE: 464125

SPS Agar (Prepared Tubes) for microbiology

Specification

Solid medium for the detection of *Clostridium perfringens* in water and food samples.

Presentation

20 Tubes	Packaging Details	Shelf life	Storage
Tube 16 x 113 mm with: 10 ± 0,2 ml.	1 box with 20 tubes, 16x113 mm glass tubes, ink labelled and metal-Non injectable cap	12 months	8-25ºC

Description and Technique

Description

SPS Agar (Sulfite Polymyxin Sulfadiazine) is a modification of the original Wilson & Blair medium for the detection of *clostridia*. The present medium betters the formulation of Mossel and also the later modification of Angelotti et al.. It achieves a higher selectivity for *C. perfringens* with the addition of Sulfadiazine and Polymyxin.

The nutritional substrates constituted by the tryptone and the yeast extract are complemented by the polysorbate, which also allows the recovery of the most delicate cells.

The anaerobic conditions are improved by the thioglycolate, which permits the use of the medium on the plates. The differential system consists of sodium sulfite and ferric citrate which allows the detection of sulfite reducing organisms, which form black colonies due to ferrous sulfide precipitate.

Technique

Collect, dilute and prepare samples and volumes as required according to specifications, directives, official standard regulations and/or expected results.
Melt the medium contained in the tubes in a water bath or in a microwave oven, avoiding overhating. Add the sample directly into tube after making a dilution bank, or stab needle.

Incubate the tube in anaerobically conditions at 44±1ºC for 24-48h. (Incubation times longer than those mentioned above or different incubation temperatures may be required depending on the sample, on the specifications,...)

After incubation, enumerate all the colonies that have appeared into the agar, with a black precipitate. Each laboratory must evaluate the results according to their specifications. Presumptive isolation of *Clostridium sp* must be confirmed by further microbiological and biochemical tests.

Calculate total microbial count per ml of sample by multiplying the average number of colonies per plate by the inverse dilution factor if streaked a diluted sample. Report results as Colony Forming Unit (CFU's) per ml or g along with incubation time and temperature.

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Since the medium is not extremely selective, it is advisable to verify black colonies by checking that they are Gram positive sporulated non-motile organisms incapable of reducing nitrates to nitrites.

Most *clostridia* are sulfite reducers. Among them are *C. perfringens* and *C. botulinum* which along with *C. bifermentans* are the species most frequently involved in food poisoning.

Quality control

Physical/Chemical control	Microbiological control	Sterility control
Color: Straw-coloured yellow. pH: 7 ± 0.2 at 25ºC	Inoculate by stabbing Anaerobiosis. Incubation at 35 ± 2.5ºC, reading after 24-48 hours	Incubation 48 hours at 30-35ºC and 48 hours at 20-25ºC: NO GROWTH Check at 7 days after incubation in same conditions.

Microorganism	Growth
Clostridium perfringens ATCC® 13124, WDCM 00007	Good - H2S positive . Black colonies
Clostridium perfringens ATCC® 10543, WDCM 00174	Good - H2S positive . Black colonies
Bacillus subtilis ATCC® 6633, WDCM 00003	Inhibited

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