

# SPS Agar (Perfringens Selective Agar acc. to ANGELOTTI)

## Sulfite Polymyxin Sulfadiazine Agar

Medium proposed by ANGELOTTI et al. (1962) for the isolation and enumeration of *Clostridium perfringens* and *Clostridium botulinum* in all types of foodstuffs.

### Mode of Action

Sulfite Polymyxin Sulfadiazine Agar contains a broad spectrum of nutrients. Sulfite is reduced by most clostridia (including *Cl. perfringens*) to sulfide, which reacts with iron citrate and causes the colonies to turn black. Other sulfite-reducing microorganisms are largely suppressed by polymyxin and sulfadiazine (sulfapyrimidine). The low sulfite content allows growth of even sulfite-sensitive clostridia which also exhibit an adequate blackening of the colonies (PUT et al. 1961; BEERNS et al. 1961).

### Typical Composition (g/litre)

Peptone from casein 15.0; yeast extract 10.0; iron(III) citrate 0.5; sodium sulfite 0.5; Polymyxin B sulfate 0.01; sodium sulfadiazine 0.12; agar-agar 13.9.

### Preparation

Suspend 40 g/litre, autoclave (15 min at 121 °C).

pH: 7.0 ± 0.2 at 25 °C.

The prepared medium is clear and yellowish-brown.

### Experimental Procedure and Evaluation

Mix the culture medium with the sample material (homogenized and diluted), pour into plates or tubes. Seal the tubes with sterile liquid paraffin. Place the plates in an anaerobic jar.

Anaerocult® A, Anaerocult® A mini or Anaerocult® P can be used for this purpose.

Incubation: 24-48 hours at 35 °C.

Clostridia develop with black colonies. Further tests should be performed for purposes of identification.

### Literature

ANGELOTTI, R., HALL, H.E., FOTER, M.J., a. LEWIS, K.M.: Quantitation of *Clostridium perfringens* in Foods. – **Appl. Microbiol.**, **10**: 193-199 (1962).

BEERENS, H., CASTEL, M.M., et LECLERC, H.: Contribution à l'étude des Milieux au sulfite de sodium pour l'isolement des *Clostridium*. – **Ann. Inst. Pasteur Lille**, **12**: 183-193 (1961).

PUT, H.M.C.: Sulphito-réduction et sulphito-sensibilité des *Clostridia*: considérations taxonomiques et pratiques. – **Ann. Inst. Pasteur Lille**, **12**: 175-181 (1961).

### Ordering Information

Product	Merck Cat. No.	Pack size
SPS Agar (Perfringens Selective Agar acc. to ANGELOTTI)	1.10235.0500	500 g
Anaerobic jar	1.16387.0001	1 ea
Anaeroclip®	1.14226.0001	1 x 25
Anaerocult® A	1.13829.0001	1 x 10
Anaerocult® A mini	1.01611.0001	1 x 25
Anaerocult® P	1.13807.0001	1 x 25
Anaerotest®	1.15112.0001	1 x 50
Paraffin viscous	1.07160.1000	1 l
Plate basket	1.07040.0001	1 ea



*Clostridium perfringens*  
ATCC 13124

### Quality control

Test strains	Growth	Black colonies
<i>Clostridium perfringens</i> ATCC 10543	good / very good	+
<i>Clostridium perfringens</i> ATCC 13124	good / very good	+
<i>Clostridium sporogenes</i> ATCC 11437	good / very good	+
<i>Escherichia coli</i> ATCC 25922	none / fair	-
<i>Pseudomonas aeruginosa</i> ATCC 27853	none / poor	-