

TM 857 - SHIGELLA BROTH BASE

INTENDED USE

For isolation and cultivation of *Shigella* species from foods.

PRODUCT SUMMARY AND EXPLANATION

Shigella are gram-negative, non-motile, non-spore forming rod-shaped bacteria closely related to *Escherichia coli* and *Salmonella*. *Shigella* infection is typically via ingestion (faecal-oral contamination), depending on age and condition of the host, as few as 10 bacterial cells can be enough to cause an infection. *Shigella* causes dysentery that results in the destruction of the epithelial cells of the intestinal mucosa in the cecum and rectum. Some strains produce enterotoxin and Shiga toxin, similar to the verotoxin of *E. coli* O157:H7. *Shigella* Broth Base is used for the isolation and cultivation of *Shigella* species, as recommended by APHA.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	20.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.000
Potassium dihydrogen phosphate	2.000
Dextrose	1.000
Polysorbate 80	1.500

PRINCIPLE

Shigella Broth Base contains casein enzymic hydrolysate as a source of carbon, nitrogen, vitamins and minerals. Dextrose provides the necessary carbohydrates. Buffering action in the medium is provided by dipotassium hydrogen phosphate and potassium dihydrogen phosphate. Sodium chloride maintains the osmotic balance of the medium. Polysorbate 80 is inhibitory for growth of accompanying microflora besides providing growth factors. Novobiocin is inhibitory for gram-positive bacteria such as *S. aureus* and certain gram-negative organisms such as *H. influenzae* and some species of *Proteus*.

INSTRUCTION FOR USE

- Dissolve 31.5 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool medium to 45-50°C and add rehydrated content of 1 vial of *Shigella* Selective Supplement under aseptic conditions.
- Mix well and dispense in sterile test tubes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light amber coloured clear solution.
pH (at 25°C)	: 7.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation with added *Shigella* Selective Supplement.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>Shigella dysenteriae</i>	13313	50-100	Luxuriant	35-37°C	18-24 Hours
<i>Shigella flexneri</i>	12022	50-100	Luxuriant	35-37°C	18-24 Hours
<i>Shigella sonnei</i>	25931	50-100	Luxuriant	35-37°C	18-24 Hours
<i>Staphylococcus aureus</i>	25923	$\geq 10^3$	Inhibited	35-37°C	18-24 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

- Hale T. L., Keusch G. T., 1996, Shigella. In: Barons Medical Microbiology (Barron S et al, Eds.), 4th Ed., Univ of Texas Medical Branch.
- Atlas R.M., 1997, Handbook of Microbiological Media 2nd Edition, CRC Press, Boca Raton, New York, London, Tokyo.
- Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.

 Good Manufacturing Practices Certified	 For In Vitro Diagnostic Use	 Quantity	 Lot / Batch Number	 Catalogue Number	 Manufacturer
 Temperature Unit	 Authorized Representative	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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