SALMONELLA SHIGELLA AGAR (SS AGAR)

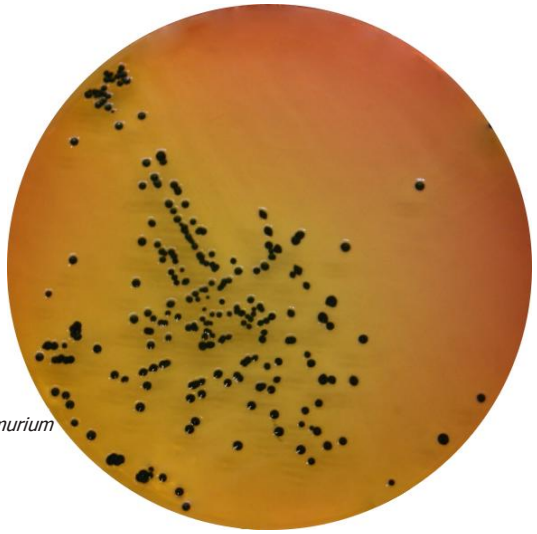
CAT Nº: 1064

Selective medium for the isolation of *Salmonella* and *Shigella*

FORMULA IN g/l

Lactose	10.00	Peptone Mixture	5.00
Bile Salts Mixture	8.50	Ferric Citrate	1.00
Sodium Citrate	8.50	Neutral Red	0.025
Sodium Thiosulfate	8.50	Brilliant Green	0.0003
Beef Extract	5.00	Bacteriological Agar	13.50

Final pH 7.0 ± 0.2 at 25ºC



Salmonella typhimurium
ATCC 14028

PREPARATION

Suspend 60 grams of the medium in one liter of distilled water. Mix well until a homogeneous suspension is obtained. Heat with frequent agitation and boil for one minute until complete disolution. DO NOT AUTOCLAVE. Cool to 45 – 50°C and distribute in Petri dishes. The prepared medium should be stored at 8-15°C. The color is red-orange.

The dehydrated medium should be homogeneous, free-flowing and beige-pink in color. If there are any physical changes, discard the medium.

USES

SALMONELLA SHIGELLA AGAR (SS AGAR) is a selective and differential medium widely used in sanitary bacteriology to isolate *Salmonella* and *Shigella* from feces, urine, and fresh and canned foods.

Due to its strong inhibitory power, SS Agar can be streaked with a heavy inoculum, but other less inhibitory media, such as Desoxycholate Agar (Cat. 1020), MacConkey Agar (Cat. 1052), Eosin Methylene Blue (EMB) Agar (Cat. 1039), XLD Agar (Cat. 1080) and Hektoen Enteric Agar (Cat. 1030), should be streaked in parallel. Inoculate and incubate at 35 ± 2°C for 18 – 24 hours.

Beef extract and Peptone mixture provide nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. Bile Salts Mixture, Sodium citrate and Brilliant green inhibit Gram-positive bacteria, most coliform bacteria and swarming *Proteus* spp., while allowing *Salmonella spp* to grow. Neutral red is the pH indicator. Sodium thiosulfate and Ferric citrate allow the detection of the H_2S producing bacteria, such as *Proteus* and some strains of *Salmonella*, since they produce colonies with black centers and a clear halo.

Non-lactose fermenting bacteria (supposed pathogens) produce clear colonies, transparent or colorless, while coliforms are sufficiently inhibited, and form small colonies that vary from pink to red in color. The plates of the medium can be kept for at least a week in refrigeration.

This formulation, highly selective, is not recommended for the primary isolation of *Shigella*. Some *Shigella* spp. may be inhibited.

CHARACTERISTICS OF THE COLONIES

BACTERIA	COLONIES

Shigella and the majority of *salmonellae*	Clear, colorless, transparent
Escherichia coli	Small, pink to red
Enterobacter, Klebsiella	Larger than *E.coli*, mucoid, pale, opaque cream to pink
Proteus and some *Salmonella*	Colorless, transparent, with a black center if H_2S is produced

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after anaerobic incubation at a temperature of 35 ± 2°C and observed after 18 - 24 hours.

Microorganisms	Growth	Colony Color
Escherichia coli ATCC 25922	Inhibited	-----
Enterobacter aerogenes ATCC 13048	Partially inhibited	Cream-pink
Salmonella enteriditis ATCC 13076	Good	Colorless with black center
Salmonella typhi ATCC 6539	Good	Colorless with black center
Salmonella typhimurium ATCC 14028	Good	Colorless with black center
Shigella flexneri ATCC 12022	Good	Colorless
Enterococcus faecalis ATCC 19433	Inhibited	-----

BIBLIOGRAPHY

Pub. Health Reports. 65:1075. 1950. Paper Read at Microbiological Congress, 1950. Proc. 22nd Ann. Meet. Northeastern Conf. Lab. Workers in Pullorum Disease Control Burlington, Vermont, June 20-21. 1950.

CE IVD

STORAGE

Once opened keep powdered medium closed to avoid hydration.