

## TM 1203 - SALMONELLA DIFFERENTIAL AGAR, MODIFIED (DOUBLE PACK) (Part-I) & (Part-II)

### INTENDED USE

Salmonella Differential Agar, Modified (Twin Pack) is recommended for identification and differentiation of Salmonella species from the members of Enterobacteriaceae, especially Proteus species

### PRODUCT SUMMARY AND EXPLANATION

*Salmonella* Differential Agar is slight modification of original formulation of Rambach used for differentiation of *Salmonella* species from Proteus species and other enteric bacteria. Production of acid from propylene glycol is a novel characteristic of Salmonella species and is utilized in these media. Many of the media such as SS Agar, XLD Agar recommended for the identification and differentiation of *Salmonella* species are based on lactose fermentation and hydrogen sulphide production.

Other enteric gram-negative bacteria form colourless colonies. *Salmonella* Typhimurium and *Salmonella* Enteritidis produce pink to red colonies. Specimen should be enriched in an appropriate selective enrichment broth. This enriched culture is then inoculated on Salmonella Differential Agar, Modified and incubated at 35-37°C for 24-48 hours.

### COMPOSITION

| Ingredients         | Gms / Ltr |
|---------------------|-----------|
| <b>Part I</b>       |           |
| Peptone special     | 8.000     |
| Yeast extract       | 3.000     |
| Sodium Deoxycholate | 1.000     |
| Sodium chloride     | 5.000     |
| B. C. Indicator     | 2.000     |
| Agar                | 12.000    |
| <b>Part II</b>      |           |
| Propylene glycol    | 10.000    |

### PRINCIPLE

Peptone special and yeast extract supports the luxuriant growth of bacteria by supplying nitrogen and carbon compounds, long chain amino acids, vitamins and other essential nutrients. Sodium Deoxycholate inhibits gram-positive organisms rendering the medium selective for enteric microorganisms. The BC indicator turn pink in presence of acid produced from propylene glycol. Lactose fermenting ability is determined by using an indicator, which can detect the presence of enzyme  $\beta$ -galactosidase. Lactose fermenting ( $\beta$ -galactosidase producing) bacteria yield blue violet coloured colony. Salmonella produce acid from propylene glycol and on combining with the pH indicator gives typical pink red colonies.

### INSTRUCTION FOR USE

- Dissolve 10 grams of fluid Part II in 1000 ml distilled water and add 31 grams of Part I.
- Mix well and heat to boiling to dissolve the medium completely, do not autoclave.
- Cool to 45-50°C. Mix well before pouring into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS



**Appearance of Powder** : Part I: Light yellow to light pink homogeneous free flowing powder.  
Part II: Colourless viscous solution.

**Appearance of prepared medium** : Light orange coloured, clear to slightly opalescent gel forms in Petri plates.

**pH (at 25°C)** : 7.3±0.2

**INTERPRETATION**

Cultural characteristics observed after an incubation.

| Microorganism                              | ATCC  | Inoculum (CFU/ml) | Growth    | Recovery | Color of the colony | Incubation Temperature | Incubation Period |
|--|-------|-------------------|-----------|----------|---------------------|------------------------|-------------------|
| <i>Escherichia coli</i>                    | 25922 | 50-100            | Luxuriant | >=70%    | Blue-green          | 35-37°C                | 24-48 Hours       |
| <i>Klebsiella pneumoniae</i>               | 13883 | 50-100            | Luxuriant | >=70%    | Blue-violet         | 35-37°C                | 24-48 Hours       |
| <i>Proteus mirabilis</i>                   | 25933 | 50-100            | Luxuriant | >=70%    | Colourless          | 35-37°C                | 24-48 Hours       |
| <i>Salmonella Typhimurium</i>              | 14028 | 50-100            | Luxuriant | >=70%    | Pink-red            | 35-37°C                | 24-48 Hours       |
| <i>Salmonella Enteritidis</i>              | 13076 | 50-100            | Luxuriant | >=70%    | Pink-red            | 35-37°C                | 24-48 Hours       |
| <i>Salmonella Typhi</i>                    | 6539  | 50-100            | Luxuriant | >=70%    | Colourless          | 35-37°C                | 24-48 Hours       |
| <i>Shigella flexneri</i>                   | 12022 | 50-100            | Luxuriant | >=70%    | Colourless          | 35-37°C                | 24-48 Hours       |
| <i>Staphylococcus aureus subsp. aureus</i> | 25923 | >=10 <sup>3</sup> | Inhibited | 0%       | -                   | 35-37°C                | 24-48 Hours       |

**PACKAGING:**

In pack size of 100 gm and 500 gm bottles.



### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°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.

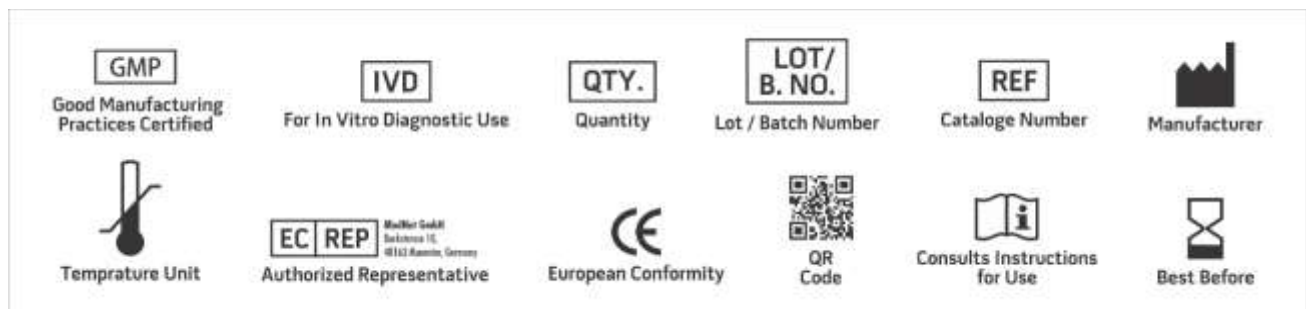
**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

### DISPOSAL

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

### REFERENCES

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
2. Greenwald R., Henderson R.W. and Yappaw S., 1991, J. Clin. Microbiol. 29:2354.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. Rambach A., 1990, Appl Environ. Microbiol., 56:301.



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

**\*For Lab Use Only**  
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