# TM 1590 – PRESTON AGAR BASE

## INTENDED USE

For selective isolation of thermotolerant *Campylobacter* species.

## PRODUCT SUMMARY AND EXPLANATION

Preston Agar Base was described by Bolton and Robertson for isolation of *Campylobacter* species and is recommended by APHA. Isolation of *Campylobacter* species on selective agar medium is made both with or without selective broth enrichment. Direct plating without enrichment is adequate for fresh faecal samples, faecal contents or intestinal specimens as high numbers of the organisms may be anticipated. For the food samples enrichment is required.

Preston Selective Supplement IV contains antibacterial and antifungal agents. Polymyxin B is active only against gram-negative bacteria and *Proteus* species are sometimes resistant. Trimethoprim usually inhibits *Proteus* species as well as other gram-negative bacteria. Rifampicin is also active against gram-negative organisms. Cycloheximide acts as antifungal agent.

On Preston Agar Base thermotolerant *Campylobacter* species tend to produce moist, grey, flat spreading growth, which tends to coalesce. Occasionally some contaminating organisms may grow on this medium but they are usually restricted to the area of primary inoculum. These include *Pseudomonas* species, more resistant coliforms, *Streptococcus* species and yeasts.

## COMPOSITION

| Ingredients | Gms / Ltr |
|---|---|
| **Peptic digest of animal tissue** | 10.000 |
| **Beef extract** | 10.000 |
| **Sodium chloride** | 5.000 |
| **Agar** | 12.000 |

## PRINCIPLE

This medium consists of Peptic digest of animal tissue and beef extract which provide nitrogen, vitamins and minerals necessary to support bacterial growth. Sodium chloride provides essential ions.

## INSTRUCTION FOR USE

- Dissolve 18.5 grams in 470 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C and aseptically add 25 ml sterile, lysed horse blood and reconstituted contents of 1 vial of Campylobacter Selective Supplement IV (Preston Selective Supplement).
- Mix well and pour into sterile Petri plates.

## QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : Cream to yellow homogeneous free flowing powder.

**Appearance of prepared medium** : Basal medium: Light yellow coloured clear to slightly opalescent gel. After addition of sterile lysed horse blood : Cherry red coloured opaque gel forms in Petri plates.

**pH (at 25°C)** : 7.5 ± 0.2

## INTERPRETATION

Cultural characteristics observed with added 25ml sterile lysed horse blood and Campylobacter Supplement IV (Preston Selective Supplement) after incubation (5% $O_2$ + 10% $CO_2$ + 85% $N_2$).

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Incubation Temperature | Incubation Period |
|---|---|---|---|---|---|---|
| *Bacillus cereus* | 10876 | $>10^3$ | Inhibited | 0% | 42°C | 48 Hours |
| *Campylobacter coli* | 33559 | 50-100 | Good-luxuriant | >=50% | 42°C | 48 Hours |
| *Campylobacter jejuni* | 29428 | 50-100 | Good-luxuriant | >=50% | 42°C | 48 Hours |
| *Campylobacter lari* | 35221 | 50-100 | Good-luxuriant | >=50% | 42°C | 48 Hours |
| *Escherichia coli* | 25922 | $>10^3$ | Inhibited | 0% | 42°C | 48 Hours |
| *Proteus mirabilis* | 25933 | $>10^3$ | Inhibited | 0% | 42°C | 48 Hours |
| *Staphylococcus aureus* | 25923 | $>10^3$ | Inhibited | 0% | 42°C | 48 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.

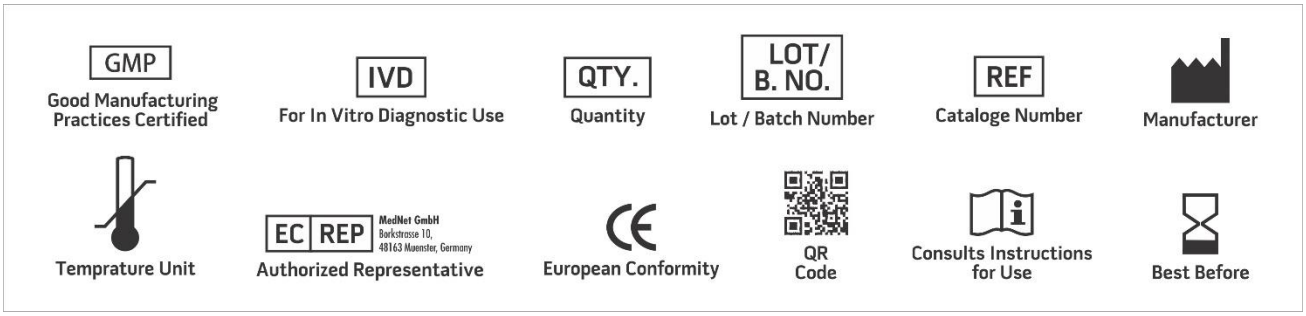
**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

## DISPOSAL

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

## REFERENCES

1. Bolton F.J. and Robertson L., 1982, J. Clin. Pathol., 35:462.
2. Vanderzant C. and Splittstoesser D. (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd ed., APHA, Washington, D.C.
3. Humphrey T. J., 1989, J. Appl. Bacteriol. 66, 119-126.




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

***For Lab Use Only**

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