TM 690 – CAMPYLOBACTER NITRATE BROTH

INTENDED USE

For identification of *Campylobacter* species by Nitrate reduction.

PRODUCT SUMMARY AND EXPLANATION

Campylobacter species are ubiquitous in the environment inhabiting a wide variety of ecological niches. Infection with *Campylobacter* species is one of the most common causes of human bacterial gastroenteritis. Most species are found in animals (cattle, swine) and cause infertility and abortion. *Campylobacter* species are non-fermentative and non-oxidative in their metabolism, deceiving energy from the use of amino acids. Also, they do not ferment or oxidize the usual carbohydrate substrates. Campylobacter Nitrate Broth is formulated as per APHA and is used for identification of *Campylobacter* species on the basis of nitrate reduction. *Campylobacter jejuni* is oxidase positive and reduces nitrates.
Preparation of Nitrate Test Reagents and Technique:
1. Sulphanilic acid: Dissolve 8 grams of sulphanilic acid in 1 litre 5 N acetic acid.
2. Alpha-naphthylamine reagent: Dissolve 5 grams of alpha-naphthylamine in 1 litre 5 N acetic acid. For the test:
Put 2 - 3 drops of each reagent into the tube containing culture to be tested. A distinct red or pink colour indicates nitrate reduction. A control (uninoculated) tube should also be tested.

COMPOSITION

Ingredients	Gms / Ltr
Beef heart infusion from	500.000
Tryptose	10.000
Sodium chloride	5.000
Potassium nitrate	2.000

PRINCIPLE

Beef heart infusion from and tryptose in the medium provide the essential nutrients including mainly the nitrogenous and a few carbon compounds to *Campylobacter* species. Sodium chloride maintains the osmotic balance of the medium. Potassium nitrate serves as the nitrate source. Biochemical reactions by which species may be differentiated are relatively few because of their inability to ferment or oxidize the usual carbohydrate substrates.

INSTRUCTION FOR USE

- Dissolve 27 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks as desired.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Amber coloured, clear solution without any precipitate.
pH (at 25°C) : 7.0±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

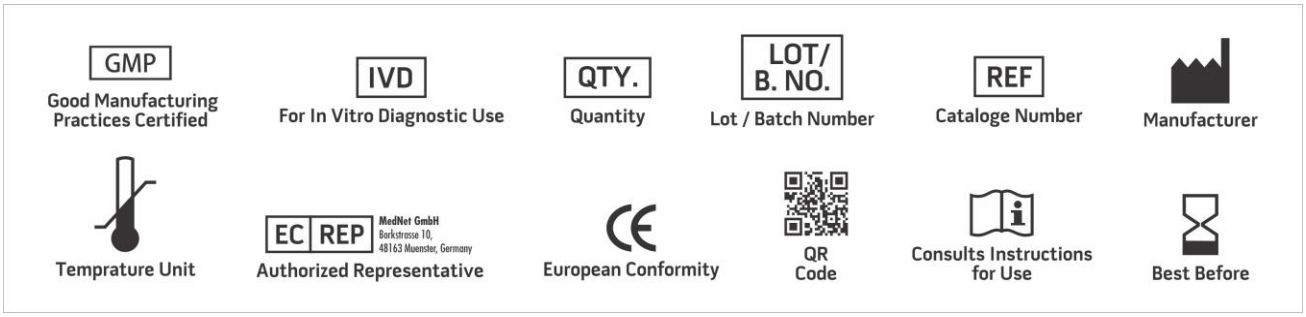
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Nitrate reduction	Incubation Temperature	Incubation Period
Acinetobacter calcoaceticus	23055	50-100	Good-luxuriant	Negative, no colour development	35-37°C	18-24 Hours
Campylobacter jejuni	29428	50-100	Good-luxuriant	Positive, red colour developed within 1-2 minutes	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Good-luxuriant	Positive, red colour developed within 1-2 minutes	35-37°C	18-24 Hours
Klebsiella aerogenes	13048	50-100	Good-luxuriant	Positive, red colour developed within 1-2 minutes	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	Positive, red colour developed within 1-2 minutes	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
1. Koneman E. W., Allen S. D., Janda W. M, Schrenckenberger P. C., Winn W. C. Jr., 1992, Colour Atlas and Textbook of Diagnostic Microbiology, 4th Ed, J. B. Lippincott Company.
2. Manning H., Duim B., Wassenaar T., Wagenaar A., Ridley A., Newell D. G., 2001, Appl. Environ. Microbiol., 67:1185.
3. 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.
4. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.



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

***For Lab Use Only**

Revision: 08 Nov., 2019