TM 1481 – NBB AGAR BASE MODIFIED

INTENDED USE

For detection of contaminating spoilage microorganisms in brewery industry.

PRODUCT SUMMARY AND EXPLANATION

The product of yeast fermentations of barley grains is beer. The yeast usually employed in beer fermentation is one of two species of Saccharomyces. The gram-positive bacteria are generally regarded as the most hazardous beer spoilage organisms in modern breweries, especially the lactobacilli and the pediococci. Even though the detection of beer spoilage organisms by cultivation in laboratory media does not always provide the specificity and the sensitivity required, the use of selective media and incubation conditions still appear to be the method preferred by breweries. Among the media reported so far, no single medium can be used to detect all members within a group of specific beer spoilage organisms and further work on the development of improved substrates are required both for bacteria and wild yeasts. Modified NBB Agar Base is a selective medium used for the detection of contaminating/ spoilage microorganisms in beer. NBB Medium (Nachweismedium fur Bierschadliche Bacterien) was developed in Germany by Back and Dachs. This medium was later modified by Nishikawa and Kohgo to provide a less inhibitory medium for beer spoilage bacteria.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	5.000
Beef extract	2.000
Yeast extract	5.000
Polysorbate 80	0.500
Potassium acetate	6.000
Disodium phosphate	2.000
L-Cystine hydrochloride	0.200
Chlorophenol red	0.070
Dextrose	15.000
Maltose	15.000
L-Malic acid	0.500
Agar	15.000

PRINCIPLE

The medium contains a wide variety of nutrients like casein enzymic hydrolysate, yeast extract, beef extract, dextrose, maltose which provide nitrogenous, carbonaceous and other essential nutrients for the growth of common spoilage organisms. The medium contains potassium acetate, which is less inhibitory to the growth of spoilage bacteria than sodium acetate, which was present in the original medium.

INSTRUCTION FOR USE

- Dissolve 66.3 grams in 500 ml distilled water and 500 ml of degassed bee and mix thoroughly.
- Heat to boiling with frequent agitation to dissolve the medium completely.
- Dispense as desired and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to beige homogeneous free flowing powder
Appearance of prepared medium : Reddish orange coloured clear to slightly opalescent gel forms in petri plates.
pH (at 25°C) : 5.8 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Acid production	Incubation Temperature	Incubation Period
Lactobacillus brevis	8291	50-100	Good	>=50%	Weak acid (trace yellow) to acid (yellow)	30-35°C	4 Days
Pediococcus acidilactici	8042	50-100	Good-Luxuriant	>=50%	Weak acid (trace yellow) to acid (yellow)	30-35°C	4 Days
Pediococcus damnosus	29358	50-100	Good-Luxuriant	>=50%	-	30-35°C	4 Days

PACKAGING:

In pack size of 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.

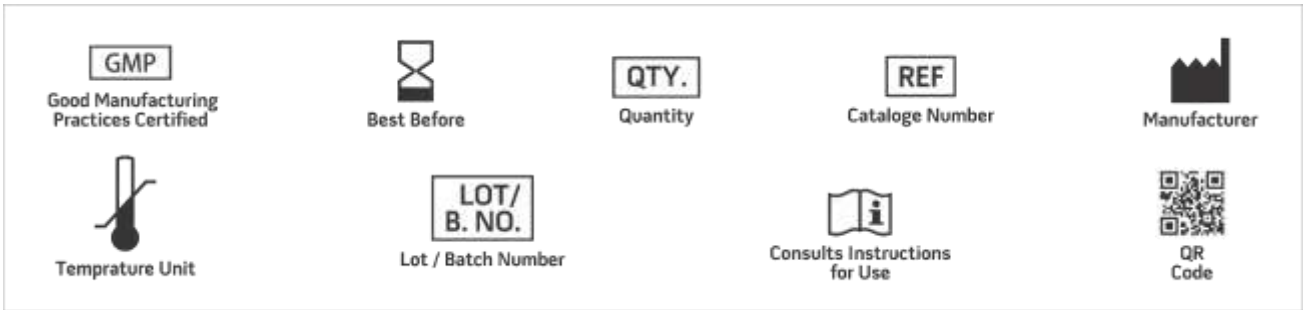
DISPOSAL

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

REFERENCES

1. Alcamo I. E., 2001, Fundamentals of Microbiology, 6th Ed., Jones and Bartlett Publishers.

2. Jespersen L., Jakbsen M., 1996, Int. J. Food Microbiol., 33:139-55
3. Back W., 1980, Brauwelt, 120:1562.
4. Dachs, 1981, Brauwelt, 1778.5. Nishikawa M. and Kohgo M., 1985, Master Brew Am Association Q22-61.



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

***For Lab Use Only**

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