

TM 2254 – NIACIN ASSAY MEDIUM

INTENDED USE

For the microbiological assay of Niacin (Nicotinic Acid) or Niacinamide using *Lactobacillus plantarum* ATCC 8014 as the test organism.

PRODUCT SUMMARY AND EXPLANATION

Niacin Assay Medium is classified under the category of assay medium of vitamin assay medium. The other two categories of medium essential in vitamin assay are the inoculum media, used for preparation of inoculum to be used in the assay procedure, and maintenance media, used for maintenance of stock cultures used in assay procedures. Niacin Assay Medium is prepared according to the formula described by Snell and Wright and modified by Krehl, Strong and Elvehjam and Barton Wright. This medium is recommended by AOAC and USP. Niacin Assay Medium is used for the assay of Niacin (Nicotinamide) employing *Lactobacillus plantarum* ATCC 8014 as the test organism.

Niacin Assay Medium is used for both turbidimetric and acidimetric analysis. Turbidimetric determination is made after 16-18 hours incubation at 35-37°C. Acidimetric determinations are best made following 72 hours incubation at 35-37°C.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone, vitamin free	12.000
Dextrose (Glucose)	40.000
Sodium acetate	20.000
L-Cystine	0.400
DL-Tryptophan	0.200
Adenine sulphate	0.020
Guanine hydrochloride	0.020
Uracil	0.020
Thiamine hydrochloride	0.0002
Calcium pantothenate	0.0002
Pyridoxine hydrochloride	0.0004
Vitamin B2 (Riboflavin)	0.0004
p-Amino benzoic acid	0.0002
Biotin	0.0000008
Dipotassium hydrogen phosphate	1.000
Potassium dihydrogen phosphate	1.000
Magnesium sulphate	0.400
Sodium chloride	0.020



Ferrous sulphate	0.020
Manganese sulphate	0.020

PRINCIPLE

The medium consists of Tryptone and amino acids which provide necessary nitrogenous nutrients for the organisms. Glucose is the fermentable carbohydrate source in the medium. Phosphate buffers the medium. Sodium chloride helps to maintain the osmotic balance in the medium. Sulphates present in the medium helps to provide ions to the medium.

INSTRUCTION FOR USE

- Dissolve 7.51 grams in 100 ml purified / distilled water.
 - Heat if necessary, to dissolve the medium completely.
 - Mix well to distribute the slight precipitate evenly.
 - For the assay, dispense 5 ml medium per assay tube (containing increasing amounts of standard or unknown) and make up the total volume to 10 ml per tube with distilled water.
 - Sterilize by autoclaving at 15 psi pressure (121°C) for 10 minutes.
 - Cool immediately.
- Generally satisfactory results are obtained with niacin or niacinamide at levels of 0.0, 0.025, 0.05, 0.075, 0.1, 0.125, 0.15, 0.2 and 0.25 mcg per assay tube (10 ml).

QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Off-white to yellow homogeneous free flowing powder.
- Appearance of prepared medium** : Light amber coloured clear solution which may contain a slight precipitate.
- pH (at 25°C)** : 6.8 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>L.plantarum</i>	8014	50-100	Good	35-37°C	16-18 Hours

PACKAGING:

In pack size of 100 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.

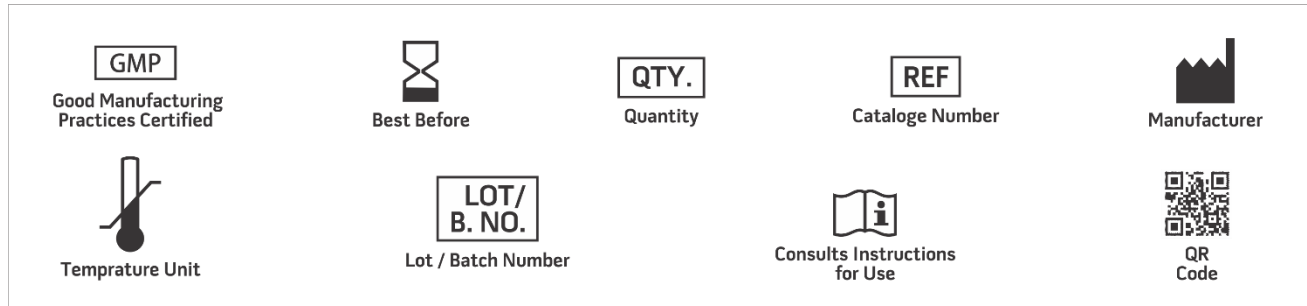


DISPOSAL

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

REFERENCES

1. Snell and Wright, 1941, J. Biol. Chem. 13:675.
2. Krehl, Strong and Elvehjem, 1943, Ind. & Eng. Chem., Ann. Ed. 15:471.
3. Williams, (Ed.), 2005, Official Methods of Analysis of the Association of Official Analytical Chemists, 19th Ed., AOAC, Washington, D.C.
4. The United States Pharmacopoeia, 2006, USP29/NF24, The United States Pharmacopoeial Convention, Rockville, MD.



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

***For Lab Use Only**
Revision: 08 Nov., 2019