

N7404 Niacin Assay Medium

Niacin Assay Medium is recommended for the microbiological assay of Niacin or Niacinamide using *Lactobacillus plantarum* ATCC 8014 as the test organism.

Composition:

Ingredients	Grams/Litre
Casein Acid Hydrolysate Vitamin Free	12.0
Dextrose	40.0
Sodium Acetate	20.0
L-Cystine	0.4
DL-Tryptophan	0.2
Adenine Sulfate	0.02
Guanine Hydrochloride	0.02
Uracil	0.02
Thiamine Hydrochloride	0.0002
Calcium Pantothenate	0.0002
Pyridoxine Hydrochloride	0.0004
Riboflavin	0.0004
p-Amino Benzoic Acid	0.0002
Biotin	0.00008
Dipotassium Phosphate	1.00
Monopotassium Phosphate	1.00
Magnesium Sulfate	0.4
Sodium Chloride	0.02
Ferrous Sulfate	0.02
Manganese Sulfate	0.02
Final pH 6.8 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 4°C.

Appearance: Light yellow colored, homogeneous, free flowing powder.
 Color and Clarity: Light amber colored, clear solution which may contain a slight precipitate.

Directions:

Suspend 7.51 g of Niacin Assay Medium in 100 ml of distilled water. Boil to dissolve the medium completely. Mix well to distribute the slight precipitate evenly. For the assay, dispense 5 ml of 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 lbs. pressure (121°C) for 10 minutes. Cool immediately.

Principle and Interpretation:

Niacin Assay Medium is prepared according to the formula described by Snell and Wright (1) and modified by Krehl, Strong and Elvethjam (2), and Barton-Wright (3). This formula is listed in USP (4) and A.O.A.C. (5).

Microbiological assay of Niacin is carried out using by using *Lactobacillus plantarum* (ATCC 8014) as the test organism. Standard curve is obtained by using Niacin as reference standard and an acidimetric or turbidimetric analysis. Turbidimetric determinations are best made following 16-18 hours incubation at 35-37°C. Acidimetric determinations are best made following 72 hours incubation at 35-37°C.



Cultural characteristics after 16-18 hours at 37°C.

Organisms (ATCC)	Growth
<i>Lactobacillus plantarum</i> (8014)	Increase in growth with increasing concentrations of niacin (0, 25, 50, 75, 125, 150, 200, 250 ng/tube (10 ml); turbidimetric readings at 620 nm).

References:

1. Snell and Wright, J. Biol. Chem., 13, 675 (1941)
2. Krehl, Strong and Elvetjam, Ind. And Eng. Chem. Ann. Ed., 15, 471 (1943)
3. Barton-Wright, Biochem J., 38, 314 (1944)
4. U.S. Pharmacopeia/National Formulary, (1980). USPXX/NFXV. U.S. Pharmacopeia Convention, Rockville, Maryland.
5. AOAC Methods, (1980). 13th Edition. AOAC. Washington, D.C.
6. American Type Culture Collection, Manassas, Va.U.S.A

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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