ARUP LABORATORIES
800-522-2787 | aruplab.com
500 Chipeta Way, Salt Lake City, UT 84108-1221
Jonathan R. Genzen, MD, PhD, Chief Medical Officer

Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB	5/18/1982
Gender:	Female
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

Vitamin B3 (Niacin and Metabolites), Serum/Plasma

ARUP test code 3016752

Nicotinic Acid	1000 ng/mL

Serum or Plasma
Reporting Limit: 10 ng/mL

Synonym(s): Niacor(R); Niaspan(R); Slo-Niacin(R); Vitamin B3
Nicotinic acid occurs naturally in plants and animals and is also added to many foods as a vitamin supplement. Due to the large variability in the metabolism of nicotinic acid, the dosing preparation used (immediate-release vs. extended-release), and the mg doses used, the serum concentrations may range from less than 10 ng/mL to about 30000 ng/mL.
After oral administration of an immediate-release tablet, peak plasma concentrations are achieved in 30 to 60 min; after oral administration of an extended-release capsule, peak plasma concentrations occur in 4 to 5 hours. The plasma half-life of nicotinic acid is about 1 hour.
In one study, fasting plasma concentrations were reported to be approximately 10 ng/mL. In another study it was reported that the administration of a single 1000 mg extended-release tablet resulted in mean nicotinic acid concentrations of less than 50 ng/mL.
The administration of multiple oral doses of nicotinic acid (for a total of 2000 mg) resulted in the following mean peak nicotinic acid plasma concentrations:
25 mg every 10 min. for 80 doses (over 13 hours): 1100 ng/mL
50 mg every 10 min. for 40 doses (over 6.5 hours): 5400 ng/mL
100 mg every 10 min. for 20 doses (over 3 hours): 29000 ng/mL
This test should be considered as a therapeutic drug monitoring/toxicological test associated with niacin (Vitamin B3) supplementation. Care should be taken in the use of this test for basal Vitamin B3 determination. The supplied reference comment does not reflect normal, endogenous Vitamin B3 concentrations.
Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)

Nicotinamide	2000 ng/mL

H=High, L=Low, *=Abnormal, C=Critical

	Serum or Plasma Reporting Limit: 10 ng/mL Synonym(s): Niacinamide; Vitamin B3; Niacin(R) Nicotinamide is a metabolite of nicotinic acid, is the common form of niacin included in vitamin preparations and is also added to many foods as a vitamin supplement. Due to the large variability in the metabolism of nicotinic acid, plasma concentrations of this metabolite also are variable. In one study, fasting plasma concentrations were reported to be approximately 40 ng/mL. In another study it was reported that the administration of a single 1000 mg extended-release tablet of nicotinic acid resulted in a mean peak nicotinamide concentration of 400 ng/mL between 5 and 10 hours post dose, decreasing to about 100 ng/mL by 16 hours post dose. The administration of multiple oral doses of nicotinic acid (for a total of 2000 mg) resulted in the following mean peak nicotinamide plasma concentrations: 25 mg every 10 min. for 80 doses (over 13 hours): 1300 ng/mL 50 mg every 10 min. for 40 doses (over 6.5 hours): 2300 ng/mL 100 mg every 10 min. for 20 doses (over 3 hours): 2000 ng/mL This test should be considered as a therapeutic drug monitoring/toxicological test associated with niacin (Vitamin B3) supplementation. Care should be taken in the use of this test for basal Vitamin B3 determination. The supplied reference comment does not reflect normal, endogenous Vitamin B3 concentrations. Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)
Nicotinuric Acid	3000 ng/mL

H=High, L=Low, *=Abnormal, C=Critical

Serum or Plasma
Reporting Limit: 10 ng/mL

Synonym(s): Niacin Metabolite
Nicotinuric acid is a metabolite of nicotinic acid and nicotinamide. Due to the large variability in the metabolism of nicotinic acid and nicotinamide, plasma concentrations of this metabolite also are variable. In one study it was reported that the administration of a single 1000 mg extended-release tablet of nicotinic acid resulted in a mean peak nicotinuric acid concentration of over 1000 ng/mL within 2 hours post dose, decreasing to less than 200 ng/mL by 6 hours and less than 50 ng/mL by 12 hours post dose.
The administration of multiple oral doses of nicotinic acid (for a total of 2000 mg) resulted in the following mean peak nicotinuric acid plasma concentrations:
25 mg every 10 min. for 80 doses (over 13 hours): 950 ng/mL
50 mg every 10 min. for 40 doses (over 6.5 hours): 2300 ng/mL
100 mg every 10 min. for 20 doses (over 3 hours): 5100 ng/mL
This test should be considered as a therapeutic drug monitoring/toxicological test associated with niacin (Vitamin B3) supplementation. Care should be taken in the use of this test for basal Vitamin B3 determination. The supplied reference comment does not reflect normal, endogenous Vitamin B3 concentrations.
Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)
This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.
Testing performed at NMS Labs, Inc.
200 Welsh Road
Horsham, PA 19044-2208
CLIA 39D0197898

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Nicotinic Acid	23-219-105058	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Nicotinamide	23-219-105058	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Nicotinuric Acid	23-219-105058	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

H=High, L=Low, *=Abnormal, C=Critical