

## Vitamin B3 Niacin in Plasma

<b>Specimen Type</b>	Plasma	
<b>Specimen Volume</b>	4 mL	
<b>Collection</b>	Collect specimen in lavender top tube with EDTA. Keep at 4°C and protect from light. Centrifuge specimen at 3000 rpm for 10 minutes. Separate plasma from cells and move plasma to a transfer tube. Freeze within 30 minutes and wrap tube in foil to protect from light. Freeze immediately.	
<b>Minimum Volume</b>	1 mL	
<b>Handling</b>	Ship frozen on dry ice.	
<b>Rejection Criteria</b>	Grossly hemolyzed specimens. Grossly lipemic specimens. Specimens not plasma. Specimens not light protected. Specimens received unfrozen. Specimens outside of listed stability.	
<b>Stability</b>	Frozen for 8 weeks.	
<b>Methodology</b>	HPLC	
<b>Reference Ranges</b>	<b>Adult (&gt; or = 10 years old)</b>	
	Low	< 0.5 µg/mL
	Normal	0.5 – 8.45 µg/mL
	High	> 8.45 µg/mL
	<b>Pediatric (&lt; 10 years old)</b>	
	Low	< 0.5 µg/mL
Normal	0.5 – 8.91 µg/mL	
High	> 8.91 µg/mL	
<b>Turnaround Time</b>	Up to 7 business days.	
<b>CPT Code</b>	84591	

## Vitamin B3 Niacin in Plasma

<p><b>Clinical Significance</b></p>	<p>The amino acid tryptophan can be metabolically converted into niacin. Vitamin B3, also called niacin and nicotinic acid, is a water soluble B vitamin. It plays a role in releasing energy from carbohydrates and fats, metabolizes proteins, and assists in the production of some hormones and in the formation of red blood cells. Niacin is also thought to prevent and treat diabetes, improve circulation (as inositol hexaniacinate); and relieve arthritis.</p> <p>Niacin deficiency causes pellagra. Other forms of niacin may help prevent the development of childhood diabetes (Type I) in high risk children.</p> <p>The beneficial use of niacin (nicotinic acid, but not niacinamide) to prevent or treat elevated blood lipids and reduce cardiovascular disease risk is documented. Large amounts of niacin may result in “niacin intolerance” in 15-40% of people who try it and the unpleasant side effect of “skin-flushing” (similar to hot flashes). The RDA for niacin is only 13-18 mg. Vitamin B3 has been used orally and intravenously in connection with various health conditions including; high triglycerides, dysmenorrhea, hypothyroidism, and multiple sclerosis.</p>
<p><b>Principle</b></p>	<p>Solid phase extraction with detection by reversed phase chromatography and UV absorption spectrometry.</p>