

ID-Vit[®] Niacin



Microbiological test kit for the determination of free niacin in serum in human sample materials

- ▶ Worldwide unique assay
- ▶ Simple and accurate method for the measurement of niacin
- ▶ Easy-to-handle
- ▶ Automation is possible



Distribuito in ITALIA da
Li StarFish S.r.l.
Via Cavour, 35
20063 Cernusco S/N (MI)
telefono 02-92150794
fax 02-92157285
info@listarfish.it
www.listarfish.it

ID-Vit[®] Niacin

Microbiological test kit for the determination of free niacin (nicotinic acid/nicotinamid acid) in serum using a *Lactobacillus plantarum*-coated microtitre plate

Niacin (nicotinic acid and nicotinamide) is used by the body to form coenzymes such as nicotinamide adenine dinucleotide (NAD⁺) and nicotinamide adenine dinucleotide phosphate (NADP⁺). As many as 200 enzymes require the two coenzymes, NAD⁺ and NADP⁺, mainly to accept or donate electrons for redox reactions. NAD⁺ functions most often in reactions involving the degradation (catabolism) of carbohydrates, fats, proteins, and alcohol to produce energy. NADP⁺ functions more often in biosynthetic (anabolic) reactions, such as in the synthesis of fatty acids and cholesterol. Since almost every metabolic pathway uses either NAD⁺ or NADP⁺, it is not surprising to find signs and symptoms of niacin deficiency in severe metabolic disorders. The worst of these is pellagra which is characterized by the four D's, representing: Dermatitis, Diarrhoea, Dementia and Death.

Niacin deficiency syndromes

Symptoms of **minor niacin deficiency**:

- Loss of appetite
- Depression
- Dementia
- Insomnia
- Weakness
- Irritability

Severe niacin deficiency may cause pellagra. The term pellagra is derived from the Italian words "pelle agra" meaning "rough" or "smarting skin". Pellagra is characterized by symptoms such as:

- Glossitis
- Sore, swollen, purple-red tongue
- Skin lesions primarily located on sun-exposed areas

Niacin as cholesterol lowering drug

Niacin increases HDL cholesterol and reduces LDL cholesterol and triglycerides. When taken in conjunction with another cholesterol medication, diet or exercise, niacin has been proven to reduce „bad“ cholesterol levels. A niacin-statin combination therapy substantially improves 4 major lipoprotein levels associated with atherosclerotic disease (Insull et al. 2004). The drug combination had good records in clinical trials for reduction in cardiovascular events and improvement in progression/regression of coronary lesions.

ID-Vit [®] Niacin	
Matrix	Serum
Sample volume	100 µL
Test principle	Direct MTP assay
Cat. No.	KIF003

Indications

- Deeply pigmented skin on sun-exposed areas
- Alcohol abuse
- Dementia
- Dry skin and dry mouth
- Numbness of the extremities
- Inflammation of mucous membranes of the tongue and mouth
- Digestive disorders

Niacin can be synthesized in the body from tryptophan, whereby the conversion requires the presence of thiamine, pyridoxine, and riboflavin. Any deficiency in these vitamins can affect the niacin metabolism.

ID-Vit[®] Niacin is a microtiter plate test kit based on a microbiological assay which **measures the total niacin content (nicotinic acid and nicotinamide) in serum**. The test kit contains all required reagents, e. g. standard, medium and microtiter plate coated with a specific microorganism, sufficient for 96 determinations including standard curves. An ELISA reader is required for evaluation of the niacin content.

Test characteristics

Reference value for human serum

Serum (n = 83): Niacin (total soluble forms): 17 - 85 µg/L (Median ± 2 SD)

Precision and reproducibility

Intra assay (n = 6)		
	Niacin [µg/L]	VC [%]
Sample 1	64	2.9
Inter assay (n = 5)		
	Niacin [µg/L]	VC [%]
Sample 1	64	3.4

Literature:

Morris M C et al. (2004) Dietary niacin and the risk of incident Alzheimer's disease and of cognitive decline. *J Neurol Neurosurg Psychiatry* 75: 1093-1099

Insull W Jr et al. (2004) Efficacy of extended-release niacin with lovastatin for hypercholesterolemia: assessing all reasonable doses with innovative surface graph analysis. *Arch Intern Med.* May 24;164(10):1121-7



US: all products: Research Use Only. Not for use in diagnostic procedures.