EXTENDED RELEASE

ENDUR-THINE®

NIACIN – PANTETHINE

Promotes heart health & cholesterol balance

endurance products COMPANY
Since 1978

WHAT IS IT?

ENDUR-THINE® Niacin-Pantethine is an extended-release dietary supplement that features niacin (as nicotinic acid) and Pantesin® pantethine, a highly bioavailable, body-ready form of the B vitamin pantothenic acid.

The proprietary vegetable-based wax matrix tablet core is formulated for slow, steady dissolution over 5 to 7 hours. This promotes optimal nutrient absorption and helps eliminate digestive upset and skin flushing associated with conventional immediate-release forms of nicotinic acid.

HOW DOES IT WORK?

Nicotinic acid is the only form of niacin with targeted benefits for heart health and lipid metabolism. Moreover, the wax-matrix delivery form has been the subject of extensive clinical research indicating it is well tolerated and clinically effective in the treatment of dyslipidemia.

Pantethine is the metabolically active form of pantothenic acid (vitamin B5). In the body, it converts into pantetheine, the functional part of coenzyme A (CoA). CoA is considered the most active metabolic enzyme in the human body, serving as a cofactor in over 70 enzymatic pathways with diverse functions. About 95% of CoA is located in the mitochondria. In this way, pantethine supports a wide range of biochemical reactions, including those involved in cardiovascular health.[1]

WHO CAN BENEFIT?

For adults who need advanced nutritional support for heart health and cholesterol balance.

PRODUCT AVAILABILITY

Bottle Size(s):
90 tablets

PRACTITIONER DISTRIBUTION

■ WholeScript™ (www.wholescript.com)

Supplement Facts		
Serving Size 1 Tablet		
Amount Per Tablet		**% DV**
Niacin (as nicotinic acid)	500 mg	3125%
Pantethine (from Pantesin®)	200 mg	*
* Daily Value (DV) not established.		

Other Ingredients: Vegetable wax (rice bran and/or carnauba), stearic acid (vegetable), magnesium stearate (vegetable), and silica.

Directions: As a dietary supplement for adults, take one (1) tablet daily with food. Do not exceed one tablet daily without consulting a physician.

1. Anonymous. *Altern Med Rev.* 2010;15(3):279-82.

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RESEARCH HIGHLIGHTS

Wax-matrix extended-release nicotinic acid

Wax-matrix extended-release nicotinic acid has been clinically shown to improve blood lipid parameters in people with dyslipidemia. Its efficacy in the treatment of dyslipidemia has been demonstrated in numerous clinical trials of various study designs including comparison,[2,3,4,5] crossover,[6,7,8,9] stepped-care[10] and parallel[11,12,13] study designs.

One systematic review [14] reveals wax-matrix, extended-release nicotinic acid (1,500-2,000 mg/day) significantly improves blood lipids in patients with dyslipidemia with a mean 16-21% LDL cholesterol reduction and good safety profile.

Pantethine

Pantethine has been clinically shown to be an effective, well tolerated therapeutic option for dyslipidemia. One systematic review[15] of 28 clinical trials with 646 participants with hyperlipidemia offers insight into dosing and expected outcomes. For this review, the average study included 22 subjects, average age 53 years, and lasted 13 weeks. The median dose of pantethine was 900 mg/day with a range of 600 to 1,200 mg/day. The most common dosage was 300 mg, three times daily. Significant improvements in all blood parameters, except HDL cholesterol, were reported by month 4, including the following:

- Total Cholesterol 15.1% reduction
- LDL Cholesterol 20.1% reduction
- Triglycerides 32.9% reduction
- HDL Cholesterol 8.4% increase*

Treatment was well tolerated with an adverse event rate of 1.4 per 100 subjects, primarily mild digestive upset.

Subsequent controlled clinical trials report similar findings.

In one randomized, double-blind, placebo-controlled trial,[16] pantethine was found to lower cardiovascular disease (CVD) risk markers in people with low or moderate CVD risk. The trial involved 32 middle-aged men and women at low- or moderate-risk of CVD and eligible for statin therapy. Participants followed a heart healthy diet for 4 weeks prior to and throughout the 16-week study period. Participants were randomly assigned to take Pantesin HF pantethine (600 mg/day from weeks 1 to 8 and 900 mg/day from weeks 9 to 16) or a placebo. Compared to placebo, treatment significantly ($P<.05$) reduced total cholesterol (at 16 weeks), LDL cholesterol (at 8 and 16 weeks), and non-HDL cholesterol (at 16 weeks).

Another double-blind, placebo-controlled trial[17] of similar study design involving 120 men and women at low or moderate risk for heart disease reports similar improvements in blood lipids. By week 16, pantethine significantly ($P<.05$) reduced total cholesterol (6 mg/dL, 3%), LDL cholesterol (4 mg/dL, 4%), and apolipoprotein B (4 mg/dL, 5%), compared to placebo. As early as week 2, pantethine produced significant decreases in total and LDL cholesterol, TC/HDL ratio, non-HDL, and apo-B, which were sustained throughout the 16-week study period. No significant between-group differences were found for apo-A, HDL cholesterol or triglyceride levels. Interestingly, the dosage increase from 600 to 900 mg/day failed to provide additional benefits, suggesting the optimal dosage is 300 mg, twice daily. Pantethine was well tolerated with a low frequency of side effects, primarily mild digestive upset.

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6. Kisseleva N, et al. *Atherosclerosis.* 1999;144S1:S23.
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* Not a significant change.