



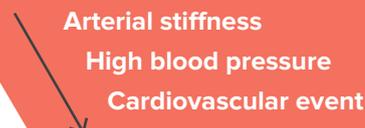
# TO FAVOUR PROPER BLOOD FLOW BY IMPROVING ENDOTHELIAL FUNCTION

100% natural food supplement based on a Rutinoside extracted from orange (*Citrus sinensis*)  
titrated in Hesperidin in a unique highly absorbable and bioavailable formulation

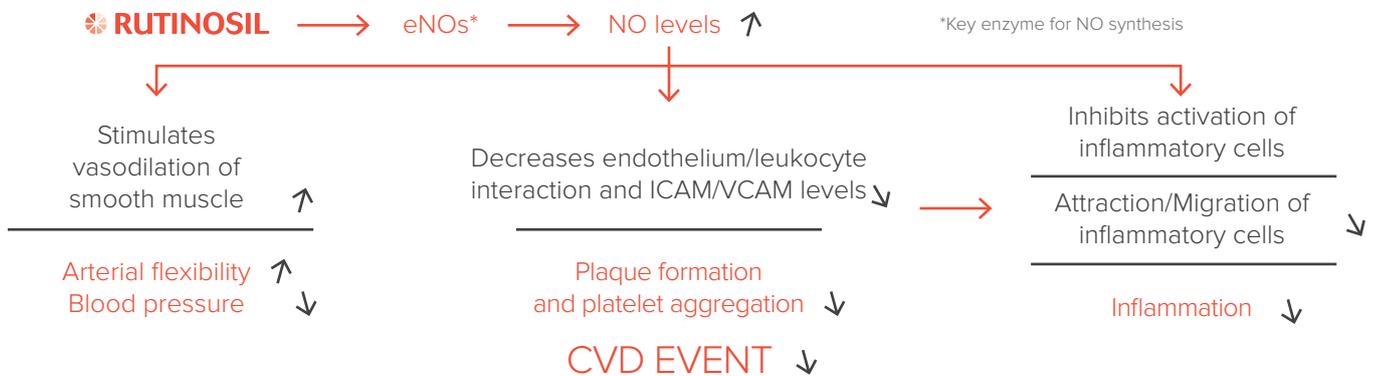
- 1** Reduces plaque formation
- 2** Normalises the flexibility of arteries, improving circulation
- 3** Reduces inflammation

## Focus on arteries

Healthy arteries are elastic/flexible  
Increased arterial stiffness is associated with cardiovascular risk

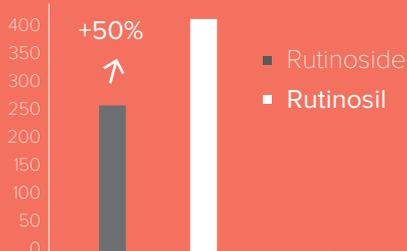


**How it works** Rutinosil works by activating the Endothelial Nitric Oxide Synthase (eNOs) → increase in NO



## Rutinosil is highly bioavailable

Excellent bioavailability



Rutinosil has 50% higher bioavailability compared to a normal rutinoside

## Package leaflet

Food supplement based on Cordiart® (*Citrus sinensis* orange dry extract titrated in Hesperidin)

**Description:** the rutinoside (Hesperidin) that is the active ingredient contained in Rutinosil is extracted from oranges of Mediterranean origin and has been developed in a highly absorbable and bioavailable formulation. There is literature showing that the active metabolites of this unique and innovative formulation (Cordiart®) are already found in the bloodstream just a few minutes after intake. Among the number of properties claimed for rutinosides, it is worth mentioning their action in promoting correct blood flow by improving endothelial function in blood vessels. One of the main factors related to cardiovascular disease is indeed endothelial dysfunction, that is the loss or lack of flexibility of vessel walls, which is also described as an important factor in the development of cardiovascular diseases like atherosclerosis, hypertension and heart failure. The endothelium plays an important role in keeping healthy arteries and, when its function is compromised, the balance between vasodilation and vasoconstriction gets altered thereby increasing cardiovascular risk. | **Composition:** Cordiart® (dry extract of *Citrus sinensis* (L.) Osbeck fruit, 90% titrated in Hesperidin). Bulking agent: cellulose. Anti-caking agents: magnesium salts of fatty acids, Silicon Dioxide. Shell: Hydroxypropyl methylcellulose. | **How to use:** 2 capsules a day on a full stomach are recommended. | **Packaging and size:** Package of 30 capsules, 486 mg each. Net weight 14.58 g. | **Warnings:** pregnant or breastfeeding women should not take the food supplement without seeking medical advice. Do not exceed the recommended daily dose. Keep out of the reach of children under three years of age. Food supplements are not intended to substitute a varied and balanced diet and a healthy lifestyle. | **Storage:** store at room temperature, away from direct heat and light sources and humidity.

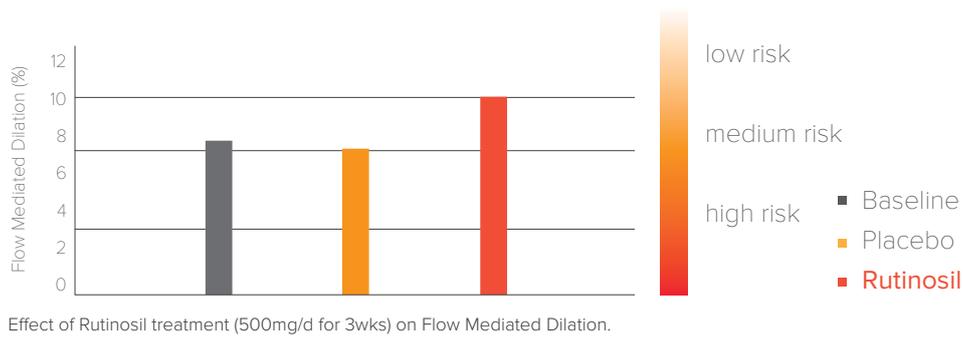
Nutritional information	1 capsule	2 capsules	Gen. Val./100 g
Cordiart®	250 mg	500 mg	51.4 g
of which Hesperidin	225 mg	450 mg	46.3 g

Rutinosil is a product by Life Science  
Life Science s.r.l.s. Via Roberto Lepetit 34  
C/O Fondazione Istituto Insucrio Ricerca per la Vita  
21040 Gerezano (Va) www.life-science.it

# Rutinosisil improves endothelial function

Randomised, double-blind, crossover trial over 6 weeks and on 24 patients with metabolic syndrome

The trial has shown that **RUTINOSIL** improves endothelial function and increases the FMD score by 20% (p<0,05)



# Rutinosisil improves arterial flexibility and diminishes plaque formation

Randomised, double-blind trial over 6 weeks on 63 overweight healthy adults (aged 18-70)

TARGETS / END POINTS :

1. Arterial flexibility
2. Plaque formation

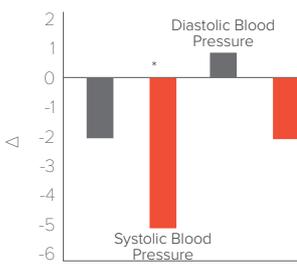
**Blood pressure is normalised**

\* **RUTINOSIL**

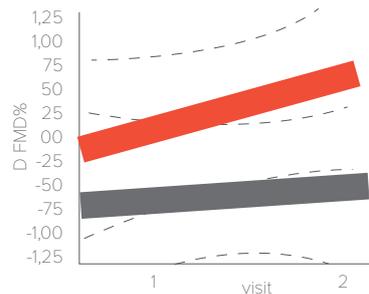
Endothelial flexibility ↑

Blood pressure ↓

CVD event ↓



Result of 6-week supplementation with 500mg/d of Rutinosil on blood pressure



Result of 6-week supplementation with 500mg/d of Rutinosil on flow mediated dilation in patients with altered endothelial function

■ Placebo ■ Rutinosil

\* After challenge test

■ Placebo ■ Rutinosil

\* After challenge test

The increase of adhesion molecules (i-cam, v-cam & sp-selectin) leads to plaque formation and platelet aggregation → arterial occlusion

Inflammation  
↓  
Plaque formation  
↓  
Arterial occlusion

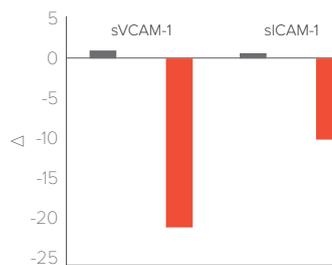
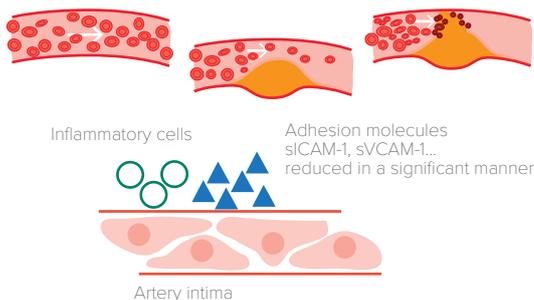
**Reduction of adhesion molecules ICAM, VCAM & p-selectin in bloodstream.**

\* **RUTINOSIL**

Adhesion molecules ↓

Inflammation ↓

Plaques and platelet aggregation ↓



Result of 6-week supplementation with 500mg/d of Rutinosil on endothelial function.

■ Placebo ■ Rutinosil

Randomized clinical trial on the efficacy of hesperidin 2S on validated cardiovascular biomarkers in healthy overweight individuals: Am J Clin Nutr doi: 10.3945/ajcn.116.136960. A novel polyphenol extract improves endothelial function and bioavailability: Agro FOOD Industry Hi Tech - vol 26(4) - July/August 2015. A Critical Evaluation of In Vitro Hesperidin 2S Bioavailability in a Model Combining Luminal (Microbial) Digestion and Caco-2 Cell Absorption in Comparison to a Randomized Controlled Human Trial: Mol. Nutr. Food Res. 2018, 62, 1700881.