Natac
Science to Market

ENDOLIVE®

by Natac

Natural Cardiovascular Protection

Olive Fruit Extract

ENDOLIVE®
by Natac

BLOOD PRESSURE, CARDIAC FUNCTION & HDL CHOLESTEROL

The Burden of Cardiovascular Disease

Cardiovascular disease (CVD) is a significant, ever-growing worldwide problem. Globally, CVD accounts for 31% of all deaths and, 80% of them occur in developed nations. Not only is it a prime cause of mortality, but it is also the leading reason for life-years lost globally for disability adjusted individuals.

Cardiovascular Risk Factors: Behavioral risk factors (unhealthy diet, physical inactivity, tobacco use, and harmful use of alcohol) may show up in individuals as high blood pressure, elevated blood glucose and lipids, and overweight and obesity.

Proven Efficacy

Preclinical Approach: Our preclinical studies prove **Endolive's** potential cardiovascular benefits based on the observed effects on hypertension, arterial function and remarkably improved cardiac function in hypertensive rats.

1. Endolive lowered systolic blood pressure in hypertensive rats

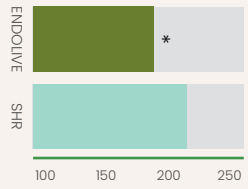


*Figure 1. Systolic blood pressure (SBP) in spontaneously hypertensive rats (SHR) and spontaneously hypertensive rats treated with Endolive (SHR+Endolive) after 8 weeks of treatment. * p<0.05 vs. SHR.*

Endolive significantly lowers elevated systolic blood pressure in hypertensive rats.

Hypertension is one of the significant risk factors for cardiovascular disease. This generates functional and structural changes in the arterial wall and target organs (heart, kidney, brain).

2. Endolive preserved arterial function in hypertensive rats

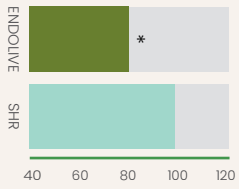


*Figure 2. Collagen I protein expression in spontaneously hypertensive rats (SHR) and spontaneously hypertensive rats treated with Endolive(SHR+Endolive) after 8 weeks of treatment. * p<0.05 vs. SHR.*

Endolive reduces aortic collagen I protein expression in hypertensive rats.

The accumulation of collagen induces fibrosis which can lead to aortic wall stiffness and arterial dysfunction. Therefore, it has been postulated as one of the most relevant vascular changes involved in the progression of hypertension.

3. Endolive improved cardiac function in hypertensive rats

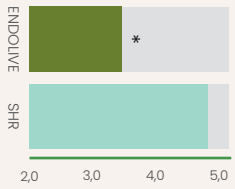


*Figure 3. Left ventricle end-diastolic pressure (LVEDP) in spontaneously hypertensive rats (SHR) and spontaneously hypertensive rats treated with Endolive (SHR+Endolive) after 8 weeks of treatment. * p<0.05 vs. SHR.*

Endolive improves cardiac function by decreasing elevated left ventricular end-diastolic pressure (LVEDP) in hypertensive rats.

Blood vessels and the heart are both prime targets for hypertensive damage. Uncontrolled hypertension accelerates the injury, which results in eventual heart dysfunction.

Natural Cardiovascular Protection

Challenges

Endolive's efficacy in treating cardiovascular disease was verified through randomised controlled trials in human volunteers: It was administered to 30 subjects at a dosage of 200mg per day (100 mg soft-gel capsules two times a day) for eight weeks. The most representative results are summarised below:

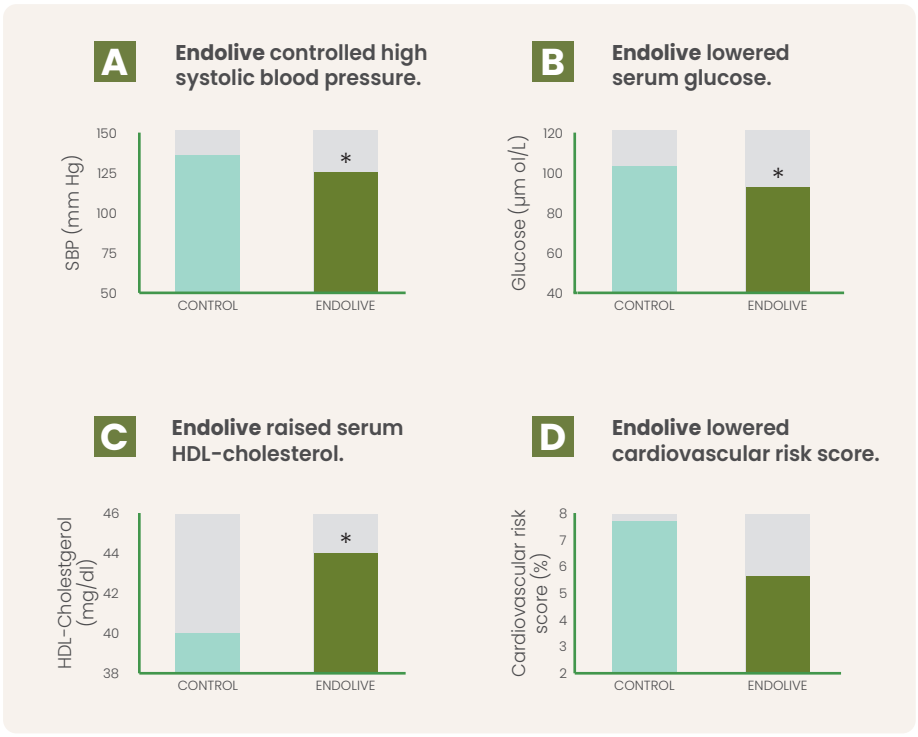
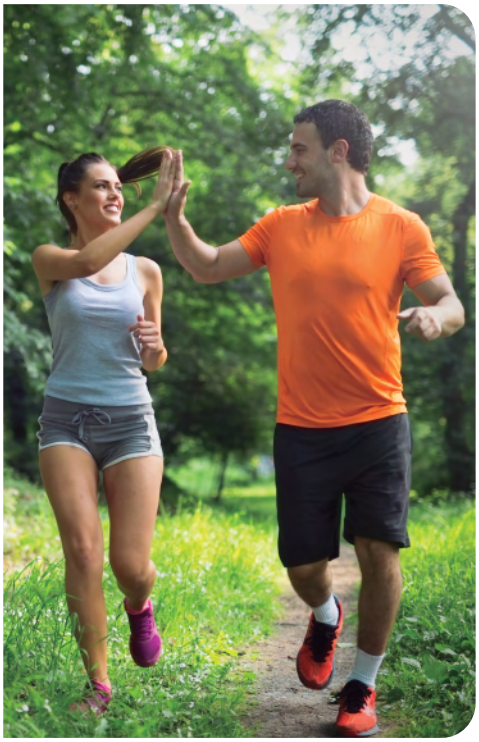


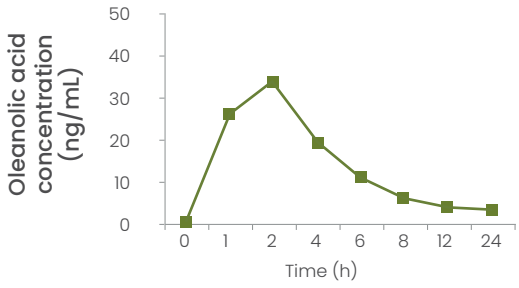
*Figure 4. Systolic blood pressure (SBP) (A), Serum glucose (B), Serum HDL-Cholesterol (C), and Cardiovascular risk score (Framingham Risk Score – 10-year risk prediction) (D) in Control and Endolive-treated subjects after eight weeks of treatment. * p<0.05 vs Control.*

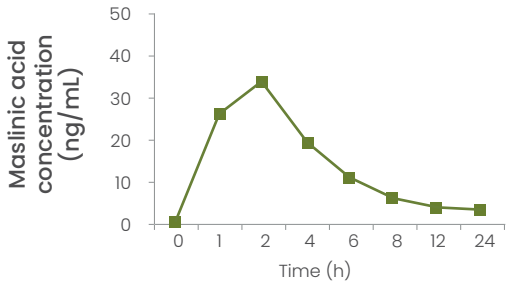


The effectiveness of **Endolive** was proven in conferring cardiovascular protection by decreasing relevant cardiovascular risk factors.

Pharmacokinetics

Endolive's pharmacokinetic profile has been defined in human volunteers. Its bioavailability has been reported in terms of oleanolic acid and maslinic acid. In addition, significant amounts of triterpenes were found in healthy subjects when **Endolive** was administered acutely at a dosage of 200mg.





References: Valero-Muñoz et al, Mol. Nutr. Food Res., 2014, Stewart et al, JRSM Cardiovasc Dis. 2017, WHO. Cardiovascular diseases (CVDs). 2016, Mahmood etal, The Lancet 2014, Wilson et al. Circulation 1998, Yusuf et al. The Lancet 2004.

ENDOLIVE®
by Natac

Studies performed by Natac indicate that Endolive:

- Lowers serum glucose
- Increases HDL
- Controls systolic blood pressure
- Improves cardiac function

› **REDUCES CARDIOVASCULAR RISK**

The compounds standardised in Endolive are equivalent to those evaluated by the EFSA in the authorised claim for olive oil polyphenols:

"Olive oil polyphenols contribute to the protection of blood lipids from oxidative stress."

Technical Information

Specifications

Patented olive fruit extract containing:

• 15% Oleanolic acid • 0,5% Tyrosol • 10% Maslinic acid • 5% Hydroxytyrosol

Dosage

200 mg/day

Suggested galenic form

Softgel capsules formulated with virgin olive oil as carrier, two capsules per day.

Patents

EP3007687; US2016143930; CA2915164 ; CN105530922; JP2016521717; WO2014198842; EP2305783; US8361518; NZ590649; MX2011000786; JP5512671; ES2332977;CA2731917; AU2009273171 .

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We specialise in producing sustainable plant extracts with proven health benefits. Our expert team conducts thorough research and development to deliver high-performance, top-quality solutions across diverse industries.

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