



# POMOLIVE<sup>®</sup>

by Natac

**Combats Metabolic Syndrome**  
Apple & Olive Extract



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## Decreases Abdominal Fat, Triglycerides & Serum Glucose

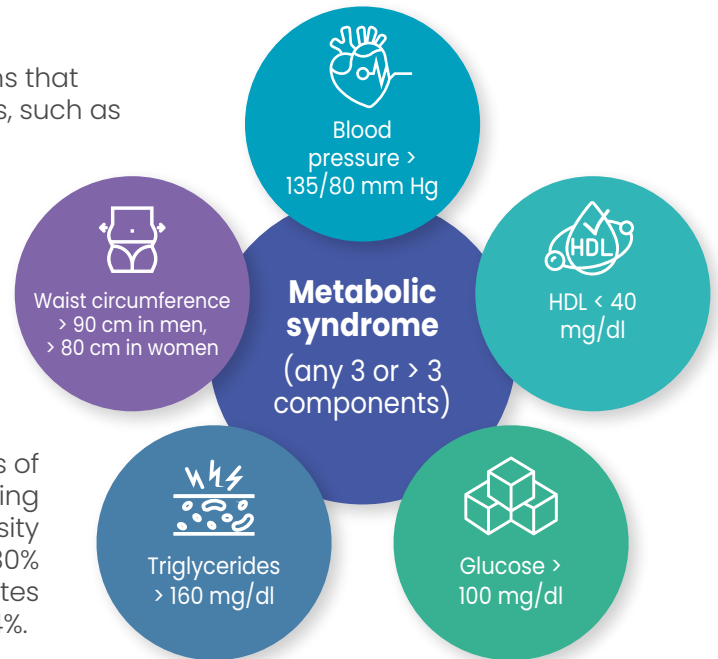
### Metabolic Syndrome

Metabolic Syndrome (MS) denotes a cluster of conditions that increase the risk of heart disease and other health issues, such as diabetes and cerebrovascular accidents.

Specifically, MS is defined by interconnected physiological, biochemical, clinical, and metabolic factors. As a result, MS directly increases the risk of coronary heart disease and type 2 diabetes, and all-cause mortality.

### Prevalence

There is strong epidemiological evidence that regardless of the criteria used, the prevalence of MS is high and growing in all western societies and Asia, likely due to the obesity epidemic. It has been estimated that approximately 10–30% of the world's adult population has MS. In the United States and Europe the prevalence is higher, ranging from 22–24%.



### Why Pomolive?

Preclinical Approach: Our preclinical studies show the synergistic effect of apple and olive is significantly greater on glucose and lipid profile than the ingredients by themselves.

#### 1. Pomolive significantly reduces increased lumbar adipose tissue in obese mice

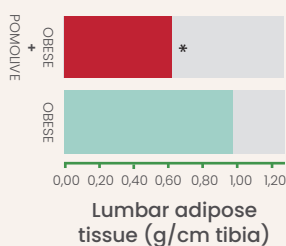


Figure 1. Lumbar adipose tissue in obese mice (ob/ob, OB) and obese mice treated with POMOLIVE (OB+POMOLIVE) after 6 weeks of treatment. \*p<0.05 vs. Obese.

The presence of fat deposits is significant in explaining the link between the distribution of body fat and the occurrence of cardio-metabolic risk factors and coronary artery disease.

#### 2. Pomolive normalised increased basal serum glucose levels in obese mice

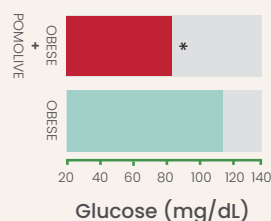


Figure 2. Basal glycemia in obese mice (ob/ob, OB) and obese mice treated with POMOLIVE (OB+POMOLIVE) after 6 weeks of treatment. \*p<0.05 vs. Obese.

Type 2 diabetes is a progressive disease characterised by hyperglycemia preceded by insulin resistance or diminished sensitivity of  $\beta$ -cell to insulin caused by various metabolic anomalies, including obesity.

#### 3. Pomolive reduced triglycerides serum levels in obese mice

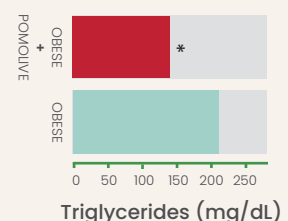


Figure 3. Serum triglycerides in obese mice (ob/ob, OB) and obese mice treated with POMOLIVE (OB+POMOLIVE) after 6 weeks of treatment. \*p<0.05 vs. Obese.

During periods of increased energy demand, triglycerides stored in adipose tissues are immediately released via lipolysis.

Lipolysis is also involved in the pathogenesis of metabolic disorders; recent studies in humans have underscored its role in disease states such as obesity-induced insulin resistance.

# Combats Metabolic Syndrome

## Clinical Studies



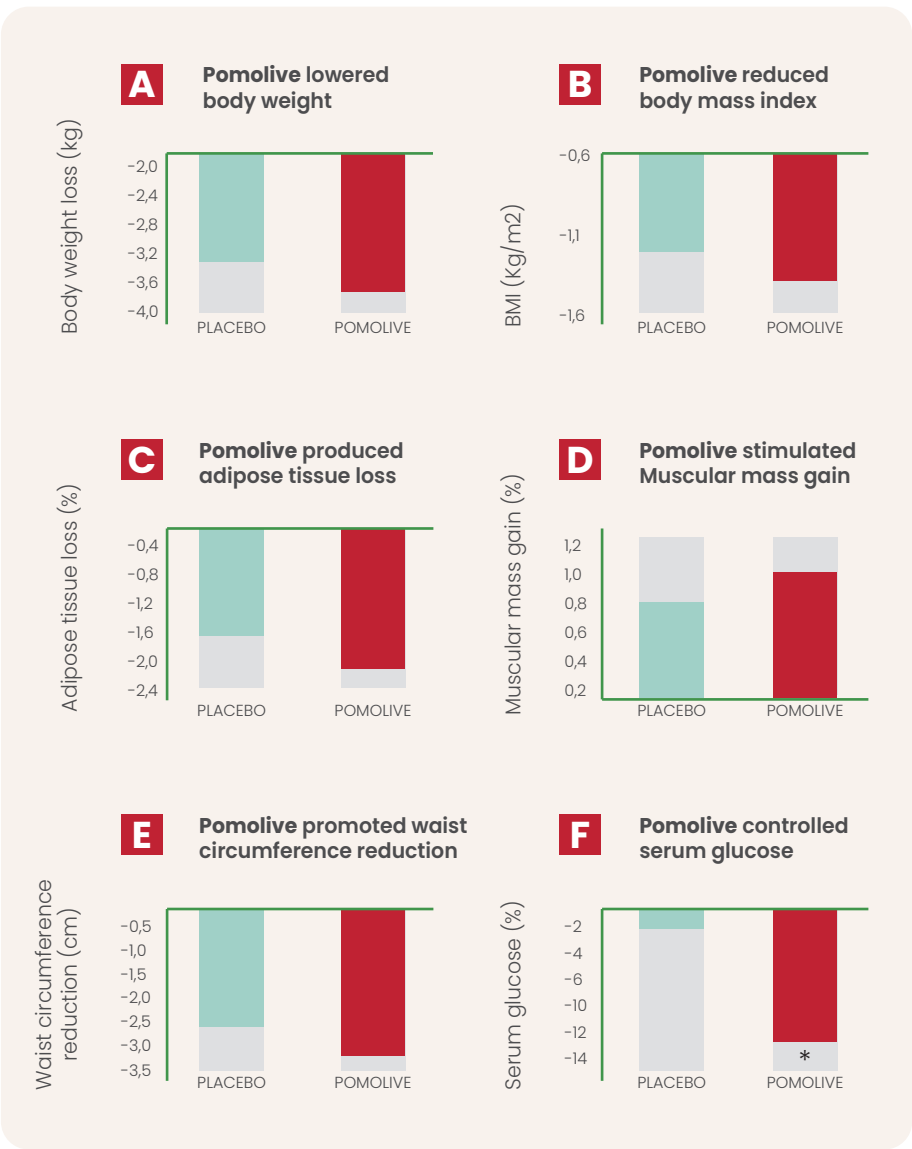
Apple consumption is associated with a lower risk of diabetes.



Olive has shown hypolipidemic effects by lowering serum cholesterol and triglycerides levels.

Pomolive's efficacy in treating metabolic syndrome was verified in a prospective, randomised, double-blind, placebo-controlled study. Pomolive's efficacy was proven in lowering obesity-related parameters and increased muscle mass, as well as controlling serum glucose.

The study was conducted on 60 subjects. Pomolive was administrated on a daily dose of 500 mg (250mg twice daily) for 8 weeks. The most representative results are summarised below.



**Figure 4.** Body weight, Kg (A), Body mass index (BMI), Kg/m<sup>2</sup> (B), Adipose tissue, % (C), Muscular mass gain, % (D), Waist circumference, cm (E) and Serum glucose, % (F) in Placebo and POMOLIVE treated subjects after 8 weeks of treatment. \*  $p < 0.05$  vs Placebo.

**References:** Alberti KG et al. *Circulation*, 2009. Alberti KG et al. *Lancet*, 2005. Arner P et al. *Trends in Endocrinology and Metabolism*, 2014. Beltrán-Sánchez et al. *J Am Coll Cardiol*, 2013. Ford ES et al. *J Diabetes*, 2010. Luna-Luna M et al. *Archives of Medical Research*, 2015. Mulè et al. *World Journal of Cardiology*, 2014. Rask-Madsen C et al. *Arterioscler Thromb Vasc Biol*, 2012.



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## Studies performed by Natac indicate that Pomolive:

- Decreases adipose tissue and increases muscular mass, therefore could be used in treatment to reduce fat deposits in overweight and obese individuals.
- Reduces waist circumference, an important predictive cardiovascular risk marker.
- Lowers basal glycemia, protecting against insulin resistance.
- Diminishes elevated triglycerides that herald the onset of atherosclerosis.

## Technical Information

### Specifications

**Pomolive** is standardised to apple-derived polyphenols and triterpenic compounds from olives.

### Galenic form

**Pomolive** is presented in powder form to formulate food supplements (hard gelatin capsules, softgel capsules, tablets, etc.) Pomolive can also be incorporated into food matrices.

### Dosage

500 mg (250mg twice daily).



Natac develops and manufactures sustainably natural ingredients used in food supplements, feed, pet food, as well as in functional foods, and as natural active pharmaceutical ingredients, mainly plant extracts and functional lipids.

Headquartered in Spain, yet internationally present with the opening of new markets globally, while maintaining the strategic location of our manufacturing, R&D and Innovation Unit, and Quality Department that ensures compliance with European most rigorous standards.



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