



## CLINICALLY PROVEN:

EFFECTS OF HYTOLIVE® SUPPLEMENTATION ON OXIDATIVE STRESS, INFLAMMATION, AND METABOLIC HOMEOSTASIS IN ADULTS WITH PREDIABETES.



**SAMPLE SIZE**  
49 participants



**AGE RANGE**  
40-70 years



**DOSAGE**  
15 mg/day of  
hydroxytyrosol (150 mg/day  
Hytolive 10%) in capsules

## STUDY TYPE



Randomized,  
double-blind,  
placebo-controlled  
clinical trial.



**DURATION**  
16 weeks.



**LOCATION**  
Institute of Food Science,  
Technology and Nutrition  
(ICTAN-CSIC), Madrid, Spain.

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## BIOMARKERS WITH STATISTICALLY SIGNIFICANT DIFFERENCES.

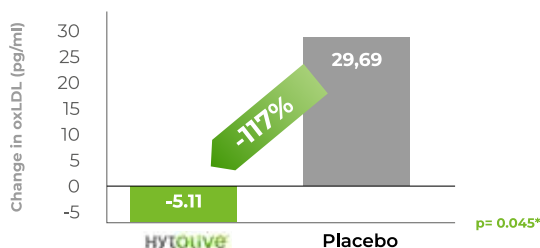
Hytolive (Hydroxytyrosol) acts through multiple mechanisms, including:

- ✓ **Antioxidant protection** (reducing oxLDL, carbonyls, and 8-OHdG).
- ✓ **Enhancing endogenous defenses** (increasing TAS and maintaining GPX activity).
- ✓ **Reducing inflammation** (lowering IL-6).
- ✓ **Supporting metabolic regulation** (modulating GLP-1 levels for better glucose homeostasis).

These effects make HT a promising functional ingredient for cardiovascular protection, anti-aging, and metabolic health.

# NEW CLINICAL RESULTS

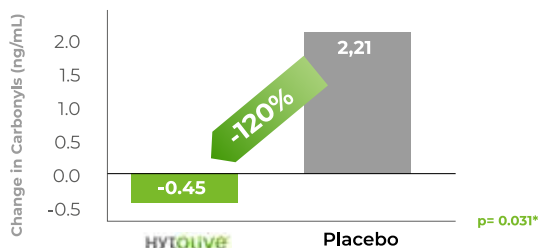
## Effect on oxLDL (pg/mL)



Hytolive could help **reduce the progression of cardiovascular diseases** by decreasing LDL cholesterol oxidation. oxLDL is the oxidized version of LDL cholesterol ("bad cholesterol").

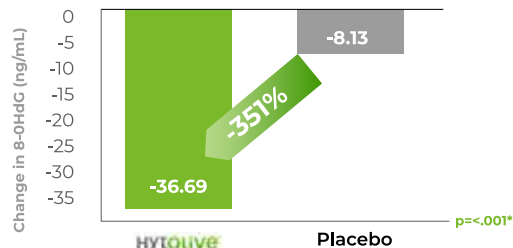
When LDL is oxidized, it can accumulate in the arteries, contributing to atherosclerosis and increasing the risk of cardiovascular diseases.

## Effect on Carbonyls (ng/mL)



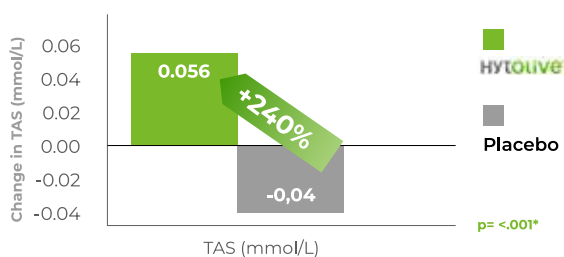
Hytolive helps **prevent protein oxidation**, which can protect cells and slow down aging.

## Effect on 8-OHdG (ng/mL)



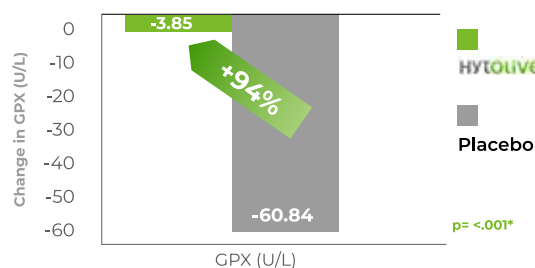
Hytolive could have a **protective effect on genetic stability**, reducing the risk of mutations and diseases associated with DNA damage.

## Effect on Total Antioxidant Status (TAS)



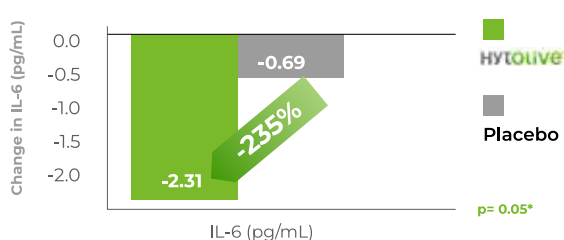
**Protective effect of Hytolive** indicating an improvement in total antioxidant capacity (TAS).

## Effect on GPX Activity



Hytolive helped maintain the antioxidant activity of the GPX enzyme, suggesting a **protective effect against oxidative stress**.

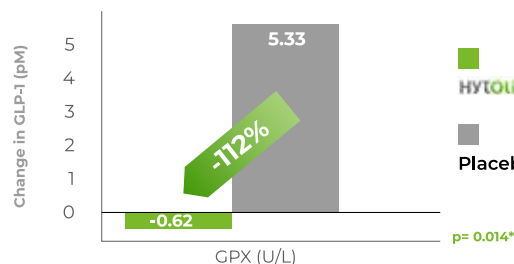
## Effect on IL-6 (Inflammation Biomarker)



Hytolive **demonstrated a significant anti-inflammatory effect**, reducing IL-6 levels more markedly than the placebo.

This suggests that Hytolive supplementation could help mitigate chronic inflammation, a key factor in metabolic diseases and aging-related conditions.

## Effect on GLP-1 Levels



The study found that the group that **did not receive Hytolive experienced an increase in GLP-1 levels**, indicating a compensatory response in glucose regulation. This rise suggests the body's effort to enhance insulin sensitivity, a typical mechanism in prediabetic individuals. Conversely, the Hytolive-supplemented group did not show this increase, implying that **Hytolive may help regulate glucose homeostasis more efficiently**, reducing the need for compensatory mechanisms. These findings suggest a potential protective role of Hytolive in metabolic health.

**ALVINESA**  
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