CholBiome® BP

with L. *plantarum* LP$_{LDL}$®

- *GMO FREE*
- *GOOD MANUFACTURING PRACTICE (GMP)*
- *ALLERGEN FREE*
- *VEGETARIAN*

Hypertension Facts

- 1 in 4 men and 1 in 5 women had hypertension and **fewer than 1 in 5 have the problem under control** (WHO,2015).
- Hypertension significantly **increases Coronary Heart Disease (CHD) risk.**
- Treating hypercholesterolemia in hypertensive patients **significantly reduces CHD risk.**

CholBiome® BP

CholBiome® BP (blood pressure) is a food supplement that combines four science-backed natural ingredients to provide a multi-targeted mechanism approach for aiding hypertension and improving the cardiovascular health of consumers.

Consisting of Four Key Ingredients:

1. ***Lactobacillus plantarum* LP$_{LDL}$,** a patented, naturally occurring and proprietary probiotic strain discovered by OptiBiotix with clinically proven efficacy to regulate the metabolism of bile acids from the liver to reduce cholesterol[1].
2. **Thiamine (Vitamin B1),** a vitamin that plays a key role in energy metabolism in all cells and contributes to the normal function of the heart[2]. Thiamine deficiencies may lead to heart health complications.
3. **L-Arginine,** a semi-essential amino acid that aids in the relaxation of the endothelium (interior layer that lines blood vessels) by increasing nitric oxide bioavailability to regulate vascular tone and contribute to vasodilation, supporting normal blood circulation and pressure[3,4].
4. **CoEnzyme Q10,** a micronutrient that provides anti-oxidant properties and is essential for the production of energy (ATP) in cells. It plays an important role in cells with high energy requirements, such as cardiac cells to support effective endothelial function, vasodilation and normal blood pressure[5,6,7].

Tri-layer Tablet Technology

Utilising a specialised three-layer tablet technology allows for the inclusion of synergistic ingredients that are otherwise may not be compatible. The three layers have different release timings consisting of; immediately (thiamine & l-arginine), 2 hours (LP$_{LDL}$) and 4 – 6 hours (CoEnzyme Q10). This enables each ingredient to be released optimally, such as LP$_{LDL}$'s slower release for increased stability, survivability and effectiveness.

Directions for use

Take one tablet orally per day with a glass of water, preferably after a main meal.

Available in boxes of 20 or 30 tablets.

The inclusion of Thiamine, allows CholBiome® BP to make the following EFSA recognised health claim:

"Supports Normal Cardiac Function" based on the official wording of "Thiamine contributes to the normal function of the heart"

EFSA Journal 2009; 7(9):1222 | Article 13(1)
of Regulation (EC) No 1924/2006

ProBiotix HEALTH

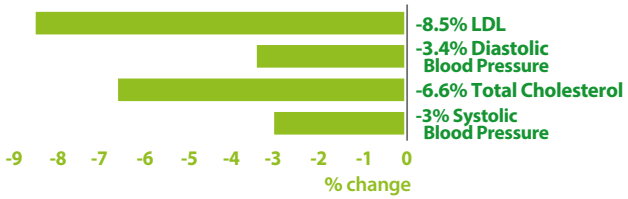
lpldl.com

CholBiome®$_{BP}$ Study[8]

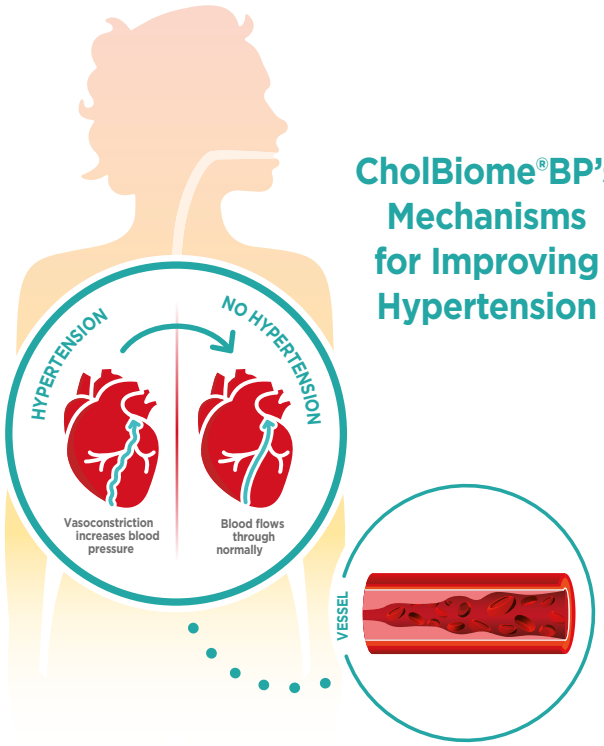
Aim
Evaluate the impact of CholBiome®$_{BP}$ (1 tablet/day; 4x10^{9}CFU LP$_{LDL}$) on blood pressure in **pre-hypertensive adults.**

Method
An independent, pilot 12-week, clinical study in 40 adults (males and females over the age of 18) with **high normal blood pressure** (systolic blood pressure 130-139mm Hgm diastolic blood pressure 85-89mmg).

12-week Results Vs Baseline



CholBiome®BP's Mechanisms for Improving Hypertension



About *Lactobacillus plantarum* LP$_{LDL}$

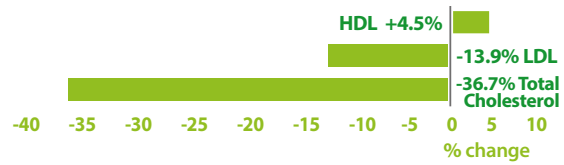
LP$_{LDL}$ is a naturally occurring strain of the bacterial species Lactobacillus plantarum (isolated from plants) with GRAS certification. Lactobacilli are common components of the human intestinal microbiome and have traditionally been used as probiotics.

LP$_{LDL}$ was selected using OptiBiotix's OptiScreen® proprietary technology platform from a collection of over 4,000 microbial candidates for its outstanding capacity to hydrolyse bile salts, which act as mediators of **gut-liver** communication, involved in the regulation of blood lipid profiles. This activity is not only crucial for bacterial survival in the harsh conditions of the inestestine, but also mediates LP$_{LDL}$'s cholesterol-lowering mechanism of action.
the following results:

Aim
Evaluate the impact of LP$_{LDL}$ (2 tablets/day; 2x109CFU LP$_{LDL}$) on blood lipids in normal to mildly hypercholesterolemic adults.

Method
An independent, double blind, randomised, placebo-controlled human study in 49 adults (males and females over the age of 18) with total cholesterol between 5.16 and 7.64 mmol/L.

12 Week Results of LP$_{LDL}$ Vs Placebo



LP$_{LDL}$ showed to be completely safe and well tolerated. Statistically significant improvements in blood pressure were also observed.

About the Gut-Liver Axis

The liver and the gut microbiome have an intense and bidirectional communication known as the *Gut-Liver Axis*. In this metabolic cooperation, the liver produces and releases bile salts influencing cholesterol metabolism.

It is now known that certain microbes, such as LP$_{LDL}$, are able to metabolise bile salts, releasing metabolites that interact with the human body. This activity can help regulate high cholesterol and blood pressure and is involved in the regulation of physiological processes such as glucose regulation, vitamin metabolism and liver function.

To find out more please contact ProBiotix on:

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Supporting literature

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(3) Dong JY et al. (2011). Am Heart J. **162(6):**959-65
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