

FINALIST  
**NUTRA**  
INGREDIENTS  
AWARDS 2022

FINALIST  
**NUTRA**  
INGREDIENTS ASIA  
AWARDS



UNIQUE AGED BLACK GARLIC WITH  
SCIENTIFICALLY BACKED CARDIOPROTECTIVE  
EFFECTS<sup>1-2</sup>

**ABG+**<sup>®</sup>  
ABG10+<sup>®</sup> / ABG25+<sup>®</sup>

100% Vertically Integrated

PHARM<sup>Δ</sup>CTIVE  
BIOTECH PRODUCTS



# Differentiated value

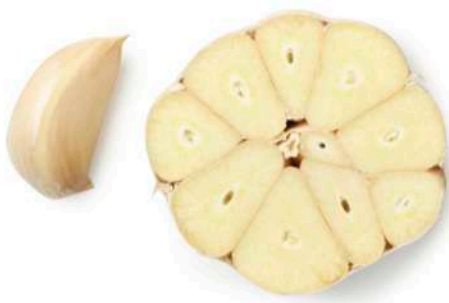
- 1 **Unique aged black garlic extract** (*Allium sativum* L.).
- 2 **Different standardizations** available to adapt to your formulations and needs.
- 3 **First aged black garlic extract** with clinical study related to blood pressure balance.
- 4 **Proven cardioprotective effects**<sup>1-3</sup>.
- 5 **Superior antioxidant capacity**<sup>7</sup>.
- 6 **100% Vertically integrated**.
- 7 **Cultivated, aged and extracted** in Spain's own manufacturing plant.
- 8 **Proprietary ageing process ABG-COOL-Tech**.
- 9 **Low Carbon Impact**.
- 10 **DNA-certified** for *Allium sativum* L.
- 11 **ETO Free** (*Ethylene Oxide*).
- 12 **Halal and Kosher certified**.
- 13 **Unique organoleptic properties** providing a complete sensorial experience.
- 14 **Odorless with no reflux**.

“There are an estimated 1280 million adults aged 30-79 years with hypertension worldwide<sup>4</sup>”.

## Aged black garlic vs Fresh garlic

### FRESH GARLIC

- More popular for culinary purposes.
- **Recently introduced** for health purposes.
- **Medium** anti-oxidant capacity<sup>2</sup>.
- Contains mainly: fructans, allicin, other organosulfur compounds, and glutamin cysteine<sup>3</sup>.
- **Allicin is an especially unstable compound** and responsible for the unpleasant odor and taste<sup>3</sup>.
- **Can cause reflux**.
- Characteristic smell and taste. White or yellowish color.
- **Old-friend ingredient**.



### AGED BLACK GARLIC

- **Ancient use in health:** is one of the oldest known plants since the times of the Egyptians, for its cardioprotective and immune boosting properties<sup>1</sup>.
- **High antioxidant capacity**<sup>2,4</sup>.
- **Main substances from fresh garlic are transformed into more stable ones:** fructose, antioxidants, SAC, SAMC, and melanoidins<sup>3</sup>.
- **No reflux**.
- Aromatic and sweet taste. Brown color.
- **One of the fastest-growing and trendiest functional** ingredient worldwide<sup>2</sup>.



## Bioactive compounds

The **ABG10+®** formula is adaptable to costumers' needs and galenic formulations such as tablets, capsules, gummies, softgels and granulated, always standardized by HPLC.

- **ABG10+®**: Standardized to  $\geq 0.1\%$  SAC.
- **ABG25+®**: Standardized to  $\geq 0.25\%$  SAC.

S-allyl cysteine (SAC) is a highly **stable** and **bioavailable** biomolecule that has been associated with the **inhibition of oxidative damage**. SAC is **not present** in raw garlic<sup>5-6</sup>.

## New Human Clinical Study: Balance Blood Pressure

This is the **first report of the DBP-reducing effect of an ABG extract** in a population where the intervention strategies were based on diet and maintaining a healthy lifestyle without the mandatory use of drugs, and the effects were observed following an easy treatment schedule of one optimized ABG extract tablet consumed daily.

In summary, the results of this study **confirm the capacity of ABG+® supplementation to decreased diastolic blood pressure (DBP)** in moderately hypercholesterolemic subjects.

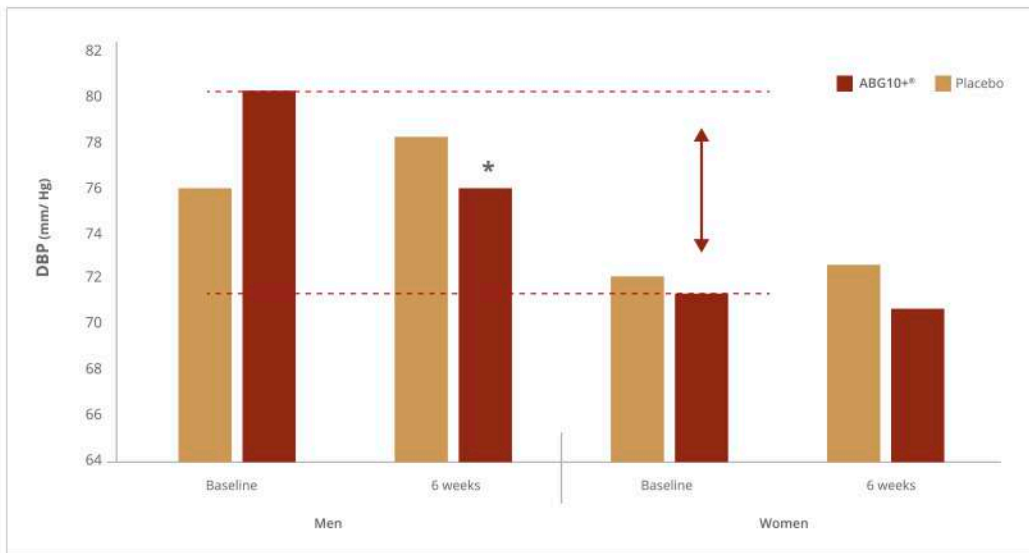


Figure 1: Changes in DBP at the baseline and 6 weeks in men and women treated daily with placebo or ABG10+® \* p-value < 0.05 vs baseline. Red lines show the difference on baseline DBP between men and women of the study.

## Cholesterol and triglycerides balance

**ABG10+®** decreased LDL cholesterol by 22%, triglycerides levels by 24% and HDL cholesterol level by 46%, *in vivo*<sup>2</sup>.

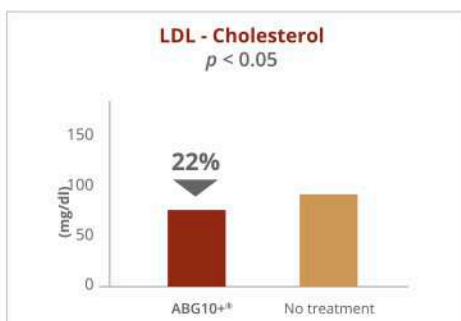


Figure 2: LDL-Cholesterol levels analysis in obese conditions.

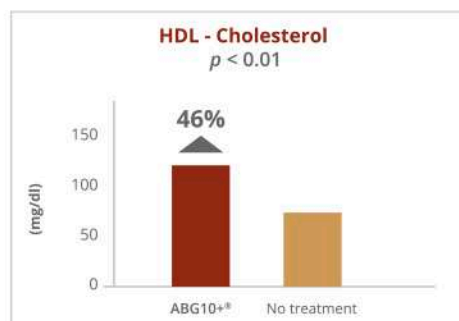


Figure 3: HDL-Cholesterol levels analysis in obese conditions.

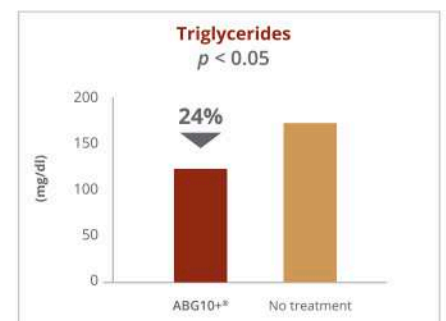


Figure 4: Triglycerides levels analysis in obese conditions.

## Cardiovascular function

**ABG10+®** decreased the coronary perfusion pressure, *ex vivo*<sup>1-2</sup>, improving oxygen and nutrient transport to cardiac tissues.

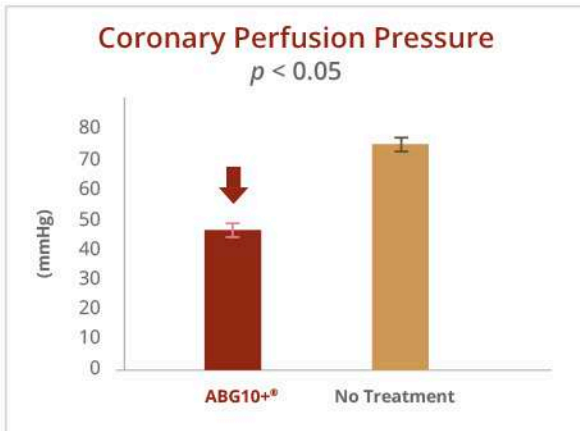


Figure 1: ABG10+® decreased coronary perfusion pressure.

**ABG10+®** increased heart contraction, pumping a higher amount of blood through the body, *ex vivo*<sup>1-2</sup>.

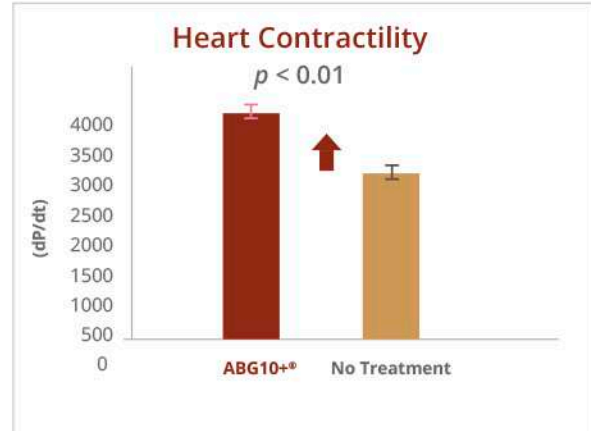


Figure 2: ABG10+® increased heart contractility.

## ABG+® & immunomodulation

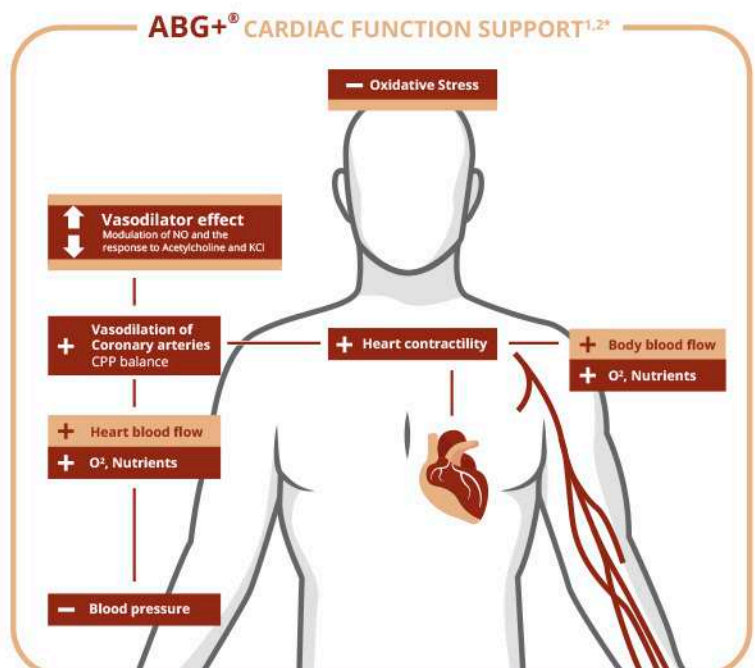
Black garlic has been **traditionally used for over 4000 years to support immunity**. It has been reported that **persons who habitually consumed black garlic and are prone to mucus and tear secretion, maintained these symptoms in normal ranges**. This suggests the immunomodulatory effect of black garlic<sup>8</sup>.

The mechanism of action that has been suggested is that **black garlic may decrease the IL-4 levels and eventually the histamine release**, which has been related to occasional inflammation and other signs of seasonal allergy.

## Main mechanism of action

**ABG10+®** multi-target mechanism of action has been described, *in vivo*<sup>1</sup> and *in vitro*<sup>2</sup>:

- Balancing blood pressure and coronary perfusion pressure.
- Increasing heart contractility, therefore allowing the heart to pump more oxygen and nutrients to the body.
- Providing superior antioxidant capacity, which reduces the risk of CVDs.





# Food-to-fork traceability: ABG+® is 100% traceable

## Proprietary fields

Pharmactive warrants **complete traceability with minimum environmental impact** using locally grown raw materials from Spain, which are rapidly transported to our manufacturing facilities in Madrid.

We cultivate *Allium sativum* L. in Pedroñeras, located in Castilla-La Mancha (Spain), where the exceptional ambient conditions forces garlic to develop more protective mechanisms, which brings one of the most valued garlic varieties.

## The exclusive eco-friendly extraction tech

An **in-house designed low-temperature proprietary production process** that is the final result of a 5-year project to optimize the **SAC extraction and bioactives preservation**.

For this purpose, Pharmactive has **reunited experts and engineers from different fields** to eventually design special production machines tailor-made to extract SAC and other exclusive bioactive compounds from aged garlic.

This technique allows us to get **superior aged black garlic Quality with 100% native SAC, avoiding the use of alcoholic solvents, and zero chemicals.**



Image of real fields and raw garlic used for ABG10+® and ABG25+® products.

## ABG COOL-Tech™



100% CONTROLLED HARVESTING



PROPRIETARY AGEING PROCESS



EXTRACTION PROCESS. OWN FACILITIES

# Pharmactive's sustainability program

We are cementing our sustainable sourcing and production protocols while conserving complete control of our supply channels to bring customers high-quality ethically sourced organic certified botanicals.

We certified our Environmental Management System to ISO standards. This certification serves to endorse the company's proactivity in ensuring our entire operations from farming to extraction to distribution are eco-supportive.

We have created a Contract Farming Support Program for the main premium ingredients, which ensures that farmers can sell their full harvest every year.



## References

(1) García-Villalón AL., et al. *Journal of Functional Foods*. 2016. 27: 189-200. (2) Amor S., et al. *Nutrients*. 2019; 11, 153. (3) Rosa M, Valls, *Nutrients* 2022, 14, 405. (4) World Health Organization. *Global Health Observatory (GHO)*, 2020. (5) Munday JS., et al. *Atherosclerosis*. 1999. 143, 399-404. (6) Ried K., et al. *Maturitas*. 2010. 67, 144-150. (7) Kim, J. H, et al. *International journal of food science & technology*, (2012) 47(6), 1176-1182.; (8) Kimura S, et al, *Food and Drug Analysis* 2017, 62-70.

## Botanical info

Botanical name: *Allium sativum* L.

Family: *Liliaceae*.

Common name: Aged black garlic.

Part of the plant: Bulb.

## Recommended daily dose

ABG10+® (standardized to 0.1% SAC by HPLC): 250 mg/ day.

ABG25+® (standardized to 0.25% SAC by HPLC): 100 mg/ day.

Available EFSA claims.

## Other info

Shelf life: Two years\*.

Non-GMO. Non-Irradiated.

MOQ: 25 Kg.

Water-soluble.

Multiple applications. Accurate for food matrices.



\*When stored at room temperature, sheltered from light and moisture.





# GENUINE SPANISH ALLIUM SATIVUM

STANDARDIZED TO  
≥0.1% SAC BY HPLC

STANDARDIZED TO  
≥0.25% SAC BY HPLC



## EFSA claims available

Health area	13-1 ID	Wording
Cardiovascular health	1991	"Supports normal homocysteine levels / supports normal cholesterol levels".
	1992	"Contributes to good cholesterol / Helps control cholesterol / Supports circulation".
Antioxidant	1989	"Helps increase the antioxidative capacity of the body".

## Contact us

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PHARM  CTIVE  
BIOTECH PRODUCTS

*a natural difference*