



UNIQUE OLIVE LEAF EXTRACT
DOUBLE-STANDARDIZED TO
OLEUROPEIN AND TO BIOFLAVONOIDS
FOR AN EXTRA BOOST



olivactive®

Strengthen your immune
system naturally

PHARM Δ CTIVE
BIOTECH PRODUCTS

Features

- Controlled process and traceability.
- Made in Spain.
- Halal and Kosher certified.



Reference (13-1 ID)	Wording
3467	Increases the physiological resistance of the organism in case of severe ambient conditions
3468	Helps the upper respiratory tract.

Differentiated value

- Natural immune booster, with microbicidal and immunomodulatory effect^{1,2}.
- Traditional ingredient that appeals to consumers as natural, effective and safe solution³.
- Unique olive leaf extract with double standardization: 20% oleuropein + 2% bioflavonoids by HPLC.
- Improved stability due to strong antioxidant capacity.
- Multi-target mechanism of action.
- Locally-sourced. Environmentally responsible.



Traditionally used to lower fever

- The olive tree has been cultivated throughout the Mediterranean basin for centuries.
- The use of olive leaves for medicinal purposes dates back to Ancient Egypt, where it was used as a popular remedy to combat fever.
- Olive is familiar to a wide range of population worldwide.

Immune-boosting botanicals that come from ancient or traditional medicine, appeal to consumers, who perceive them as natural, effective and safe³.

“76% of US consumers who are looking for an immune boost choose food supplements. Immune boosting solutions are in growing demand for the last 4 years in the US⁴.

Bioactive compounds

Olivactive® is standardized to >20% oleuropein and to >2% bioflavonoids by HPLC.

Oleuropein is one of the most characteristic biomolecules from *Olea europaea* L. leaves, which exhibits immunomodulatory⁵⁻⁹, microbicidal¹⁰⁻², and anti-inflammatory¹²⁻¹⁴ properties.

Bioflavonoids are potent antioxidants that have been shown to play a role in glycemia cases, helping to balance high levels of glucose in the blood, which is related to a higher risk of infection¹⁵⁻¹⁷. It is considered to confer better stability of the extract due to its antioxidant properties and can be used as an identifying profile of the olive to avoid adulteration.

Olivactive® immunomodulatory activity

The oleuropein present in **Olivactive®** regulates the immune response of macrophages⁵⁻⁸ and granulocytes⁹ by controlling:

- The release of Nitric Oxide (NO) and Reactive Oxygen Species (ROS) that exert an antimicrobial effect^{5,6}.
- The expression of inflammatory mediators that promote adaptive immune response (such as TNF- α , IL-6, or COX-2)^{7,9}.

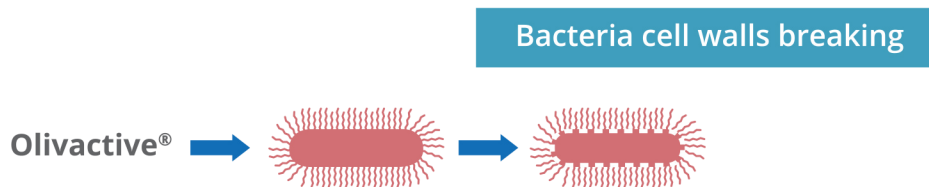


Granulocytes: a category of white blood cells; TNF- α : Tumor necrosis factor-alpha; IL: Interleukin; COX-2: Cyclooxygenase-1.

Olivactive® anti-microbial activity

The oleuropein present in **Olivactive®** has shown **strong antimicrobial activity** against bacteria (Gram-negative and Gram-positive), **mycoplasma** and **viruses**^{10,11}. Moreover, it seems to be especially useful in **antibiotic-resistant infections**².

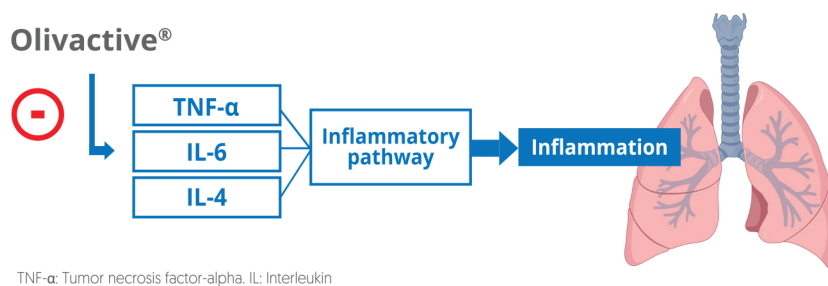
The oleuropein breaks down into hydroxytyrosol, which **promotes the breakage of bacteria cell walls**, and damages cellular membranes (via the action of ortho-diphenols)¹⁰.



Olivactive® activity as systemic anti-inflammatory

Bioflavonoids and oleuropein present in **Olivactive®** attenuate the overall inflammatory state, reducing inflammation in several cell types¹², including **muscle**¹³ and **lung**¹⁴ cells.

Bioflavonoids regulate the expression of inflammatory mediators, such as TNF- α , IL-6¹³ and IL-4¹⁴.



Olivactive® glycemia balance activity

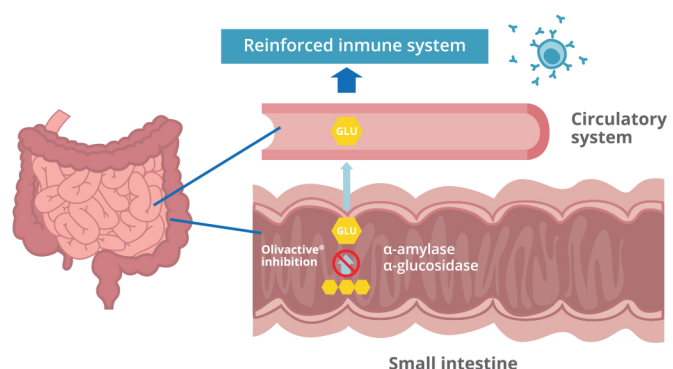
The bioflavonoids present in **Olivactive®** inhibit two enzymes involved in glucose absorption in the **gastrointestinal tract** (α -amylase and α -glucosidase)¹ leading to a positive effect on immune system strength^{16,17}.

The oleuropein present in **Olivactive®** has shown to **regulate glycemia** through NOX2 (NADPH Oxidase 2) gene expression modulation (which is overexpressed in these cases), contributing to a reduction in the generation of **metabolic oxidative stress**¹⁸.

Numerous scientific publications have related **pathological glycemia** [characterized by high levels of glucose in the blood] with **increased frequency of infections** and **decreased ability to fight them**.

Some of the consequences of unbalanced glucose levels are:

- Defective leucocyte performance.
- Reduced capacity for leucocytes to phagocytize and effectively kill bacteria.
- Less ability for Immunoglobulin G to recognize bacteria^{15,19}.



Locally sourced and high-quality standards

Olivactive® is locally sourced from olive trees grown in fields in the Mediterranean and uses an extraction process that is fully controlled and completely traceable, leveraging ancestral know-how in order to provide a final extract of the highest quality and purity.

References

(1) Visioli F., et al. *Life Sci.* 62 (1998) 541-546; (2) Omar S. H. *Sci Pharm.* 78 (2010) 133-154; (3) Mintel Market Research. 2020; (4) Kerry proactive Health study, 2019; (5) Kyriazis I. D., et al. *Parasite. Vector.* 9 (2016) 441; (6) Visioli F., et al. *Life Sci.* 62 (1998) 541-546; (7) Ryu S. J., et al. *J. Agric. Food Chem.* 63 (2015) 2098-2105; (8) Keirandish F., et al. *Parasite Immunol.* 40 (2018) e12520; (9) Qabaha K., et al. *J. Med. Food* 21 (2017) 302-305; (10) Bisignano G., et al. *J. Pharm. Pharmacol.* 51 (1999) 971-974; (11) Markin D., et al. *Mycoses.* 46 (2003) 132-136; 9(1), 35-39. (12) Ahamad J., et al. *Phytotherapy Research.* (2019) 1-17; (13) Hadrich, F., et al. *Life Sciences.* (2016) 151, 167-173; (14) Kim, Y. H., et al. *Journal of Agriculture and Food Chemistry.* (2018) 66(29), 7643-7654; (15) Rayfield M. D., et al. *Am. J. Med.* 72 (1982) 439-450; (16) Basile A., et al. *Phytochem.* 52 (1999) 1479-1482; (17) Cushine T. P. T. and Lamb A. J. *Int. J. Antimicrob. Agents* 38 (2011) 99-107; (18) Carnevale R., et al. *Br J Clin Pharmacol* (2018) 84: 1566-1574; (19) Zerr K. J., et al. *Ann. Thorac. Surg.* 63 (1997) 356-361.

Botanical info

Botanical name: *Olea europaea* L.

Family: *Oleaceae*.

Common name: Olive tree.

Part of the plant: Leaf.

Other info

Shelf life: Two years*.

Non-GMO. Non-Irradiated.

MOQ: 25 Kg.

Water-soluble.

Multiple applications. Accurate for food matrices.

Recommended daily dose

Maintenance RDD: 300 mg/day.

Intensive RDD: 500 mg/day.



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

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a natural difference

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