

ACB Olive Leaf Extract PF



Healthy Antioxidant Phenolic compounds
ROS Scavenger
 Antimicrobial Anthocyanins
 Radiant Skin

BACKGROUND

New research that has been examining the populations living on or around the Mediterranean Sea has highlighted a people with incredibly low levels of cholesterol, stress, and even cancer. This has been attributed to their diets, a variety of different plant based foods and whole grains coupled with the replacement of a modern "Western" staple, butter, with olive oil. This incredible superfood has a litany of benefits, but it doesn't stop there, the tree itself has been rising in popularity lately.

Olive trees have always been of historical and cultural significance. Throughout history, in addition to their agricultural benefits, they have been the symbolic representation of peace and security. Originating off the coast of the Mediterranean Sea, the trees cultivar grew in popularity and over a period of 5000 years, spread its influence throughout the globe. Wild olives are not of the same composition as the olives we have come to know today. Thousands of years of selective cultivation and understanding have led to one of the healthiest and multifunctional vegetables on the planet. Today, the United States alone has an annual production of Olives, chiefly from the San Joaquin Valley in California, of nearly 200,000 tons.

When anything is produced on a mass scale there are bound to be largescale waste or byproducts present. The production of Olives is no different, one such byproduct, the water used to wash the olives, leaves the water with such high antimicrobial properties it can no longer be recycled onto the land because it sterilizes it. This, in addition to the incredible amount and previously unused leaf byproducts are the main constituents of **ACB Olive Leaf Extract PF**.

Olive leaves contain a variety of super charged phenolic compounds that have been shown to exert potent biological effects including antibacterial, anti-viral, anti-parasitic and even antioxidant properties.^{1,2} For centuries it has been known that crushing and washing olive pulp in the presence of wastewater would lead to effective sterilization.

Code Number: 20349PF
INCI Name: Lactobacillus/Olive Leaf Ferment Extract
INCI Status: Conforms
REACH Status: Complies
CAS Number: 8001-25-0
EINCS Number: 232-277-0

Origin: Botanical
Processing:
 GMO Free
 No Ethoxylation
 No Irradiation
 No Sulphonation

Additives:
 Preservatives: None
 Antioxidants: None
 Other additives: None

Solvents Used: Water
Appearance: Light Brown Liquid
Soluble/ Miscible: Water Soluble

Ecological Information:
 100% Biodegradability

Microbial Count:
 <100 opg, No Pathogens

Suggested Use Levels: 1.0 – 5.0%
Suggested Applications: Antioxidant, Antimicrobial

Benefits of ACB Olive Leaf Extract PF

- Potent Antimicrobial
- Antioxidant properties
- Marketable Origin

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SCIENCE

ACB Olive Leaf Extract PF is produced via the fermentation of the leaves from the olive plant with the bacteria lactobacillus lactis. This fermentation process allows for the isolation of a variety of phytochemicals and phenolic compounds. Olive leaf fermentation typically leads to high levels of compounds such as oleuropein, flavonoids, anthocyanins and tannins which demonstrate unique antioxidant properties, as well as antibacterial, anti-viral and anti-fungal activity.³ In addition, the fermentation process increases the overall bioavailability of these compounds by adding protein complexes and other biomarkers that make them recognizable to the body. our cells, accelerating the pace of aging. Vitamin E also acts as an antioxidant by protecting our body from damage and providing support for the immune system. Vitamin D helps to absorb calcium, a mineral that keeps our bones healthy and can in turn can help to prevent prevent the spread of germs. It also contains an excess of water soluble B vitamins, which are necessary for energy metabolism.⁴

BENEFITS

The high concentration of phenolic compounds in **ACB Olive Leaf Extract PF** make it a vital tool for cosmetics. Oleuropein displays incredible levels of antioxidant activity in-vitro, it is found in its highest natural concentration in Olive leaves. The various flavonoids are capable of improving cell signaling pathways and providing a supporting role to Oleuropein’s already intense antioxidant effects. Anthocyanins are known to be powerful antioxidants, as they excel at scavenging free radicals produced through metabolic processes in plants. All of these factors combined makes **ACB Olive Leaf Extract PF** the perfect tool for formulations desiring strong antioxidant activity with the added benefit of the leaves unique anti-fungal, antibacterial, and anti-viral properties.

EFFICACY DATA

As shown in Figure 1, **ACB Olive Leaf Extract PF** exhibited antioxidant activity comparable to 200µM Trolox®, the highest standard tested. The antioxidant capacity of **ACB Olive Leaf Extract PF** increased as the concentration increased, as a result we can assure that its ability to minimize oxidative stress is dose dependent. **ACB Olive Leaf Extract PF** was designed to provide anti-oxidant and anti-microbial properties. With the present study we can confirm that this unique ingredient is not only capable of providing functional benefits but it is also capable of providing potent antioxidant benefits when added to cosmetic applications.

ORAC Assay

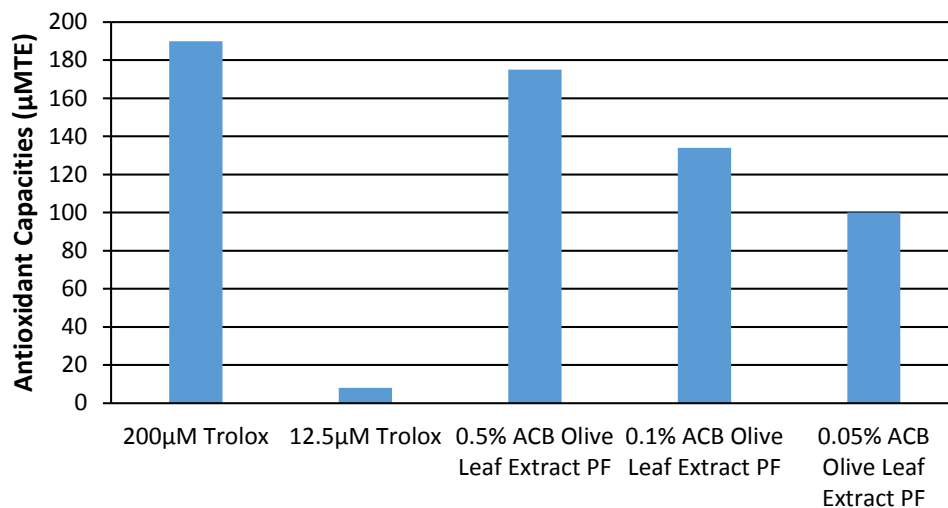


Figure 1. Antioxidant activity

ACB Olive Leaf Extract PF

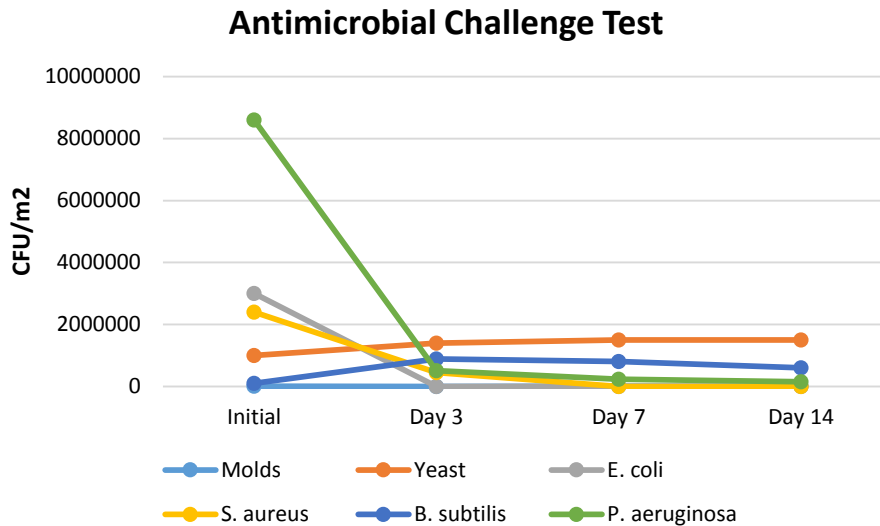


Figure 2. Antimicrobial Challenge

As seen in Figure 2, **ACB Olive Leaf Extract PF** was effective in dealing with a variety of different microbes. **ACB Olive Leaf Extract PF** was able to almost entirely eradicate several strains of bacteria by day 14 (*P. aeruginosa*, *S. aureus*) whilst inhibiting the growth of other bacteria as well as yeasts, and molds.

References

- 1) Markin, D., et al (2003) "Antimicrobial activity of olive leaves" Department of Microbiology, Rappaport Faculty of Medicine, Technion-Institute of Technology, Haifa, Israel. *Mycoses*. 2003 Apr;46(3-4):132-6.
- 2) Micol, V., et al (2005) "The olive leaf extract exhibits antiviral activity against viral haemorrhagic septicaemia rhabdovirus (VHSV)." Instituto de Biología Molecular y Celular, Universidad Miguel Hernández, E-03202-Elche, Alicante, Spain. *Antiviral Res.* 2005 Jun;66(2-3):129-36. Epub 2005 Apr 18.
- 3) Vanfleteren, J. (1993) "Oxidative stress and ageing in *Caenorhabditis elegans*." *Biochemistry Journal* (1993) 292, 605-608.