



i.BioCeuticals



# Masquelier's<sup>®</sup>

**OPCs and French Maritime  
Pine Bark Extract**



*We have the human body covered in health.*



Proprietary extraction processes adhere to consistent pharmaceutical grade standards.

## A Global Team Supporting Quality, Science and Distribution

i.BioCeuticals is the exclusive North American supplier of MASQUELIER'S® OPCs and MASQUELIER'S® French Pine Bark Extract, also known as FLAVAN®. In the sector of health ingredients, our premium products represent the integrity of a large body of science spanning 60 years. These are the authentic OPCs and French maritime pine bark extract introduced to the international market in the late 1980s. We continue to deliver these products as premier raw materials honoring the wisdom of nature and the highest standards of the scientific community.

The worldwide supplier of the MASQUELIER'S ingredients, International Nutrition Company of The Netherlands (I.N.C.), continually explores the depth of the products' health benefits through scientific study and the advancements in analytical testing to ensure quality control and consistent composition. While Dr. Jack Masquelier's original production methods set the standards for these products and the product-specific research, I.N.C. and its contract production facility, Berkem S.A., of Gardonne, France, have worked together for decades perfecting the proprietary extraction processes while maintaining the authentic science-related quality.

As the exclusive North American supplier of the MASQUELIER'S products, i.BioCeuticals' fundamental interest is to provide superior customer service. We are committed to work in partnership with our clients. Using our 20 years of experience, we support client product goals by offering technical guidance, science substantiation and marketing consultation. i.BioCeuticals further provides regulatory insight and Certificates of Analysis that support GMP manufacturer compliance.



## Proven Consistency in Quality, Composition and Benefits

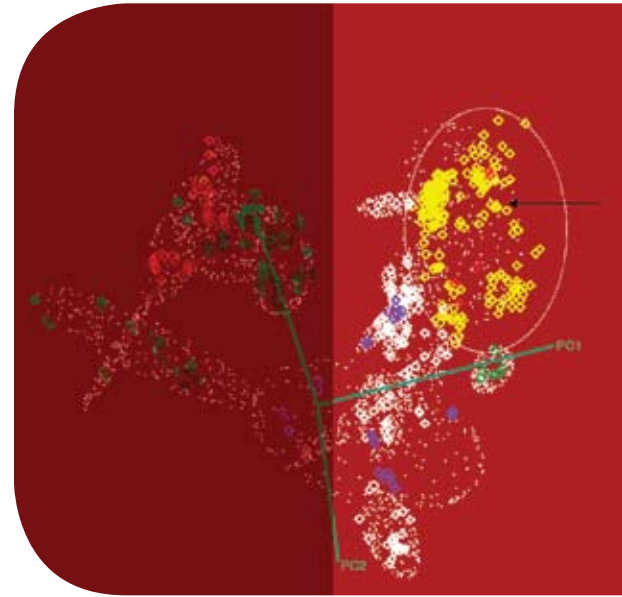
MASQUELIER'S® OPCs and MASQUELIER'S® French Pine Bark Extract (FLAVAN®) are the natural complementary compounds that were developed by Dr. Jack Masquelier. His pioneering discovery of OPCs (oligomeric proanthocyanidins) led to the first methods of producing them from French maritime pine bark and *Vitis vinifera* seeds. Though individually unique in composition, both primarily contain single and oligomeric forms of the substance that is chemically known as flavan-3-ol. The oligomeric clusters of flavanols are highly bio-available and extremely biologically active.

The distinctive quality of the MASQUELIER'S products can clearly be seen with advanced analytical testing. Proper identification definitively ties these products directly to the body of science that allowed the active principles of the MASQUELIER'S products to obtain pharmaceutical status in France. As continuous testing has confirmed, no other materials on the market match the MASQUELIER'S profiles. The biological activity of these authentic products remain an autonomous MASQUELIER'S feature.

Since the development of the MASQUELIER'S products, a significant number of human clinical studies have been published, providing substantial scientific evidence. Likewise, major medical and research institutions continuously corroborate the spectrum of health benefits attributed to each of these two products. Labels bearing the name MASQUELIER'S can be linked to the integrity and identity of these authentic raw materials and the ensuing body of science supporting their well established known health benefits.



I.N.C. ensures authenticity through rigorous quality-control and total composition testing of the MASQUELIER'S products. Above, CPA (all component) testing is being performed by a highly specialized laboratory, Borneo Plant Technology, Malaysia.



### A Typical CPA 3-D Plot

Complex Phytonutrient Authentication (CPA) testing is a combination of advanced Nuclear Magnetic Resonance Spectroscopy and Principle Component Analysis. Product samples are presented as dots in a 3-dimensional plot. Upon testing product samples over time, clusters of a product appear. The dots' "closeness" or "togetherness" marks the degree of similarity between the samples. Samples that end up in a specific cluster must be considered the same in their total composition. In this chart, samples of MASQUELIER'S OPCs are in yellow. The significance is seen in: 1) the yellow cluster stands apart from competition product samples, and 2) samples approved for pharmaceutical use in France, as well as the samples used in more recent science, are also included in the yellow cluster, which confirms MASQUELIER'S stand-alone link to an autonomous body of product-specific science.

# Key Biological Benefits of

MASQUELIER'S® OPCs cannot be over looked when considering formulas intended to benefit the underlying health and longevity of the customer.

## Powerful Antioxidant

Free radicals are unstable molecules that cause damage to DNA, lipids and protein, and cellular membranes. Antioxidants neutralize free radicals by donating an electron to make the free radical molecule stable again.



### Key Biological Functions

- Penetrates both aqueous and lipid cellular membranes to repair free radical damage
- Readily crosses the blood-brain barrier to provide superior antioxidant support
- Protects against cellular and tissue damage due to lipid oxidation by inactivating free radicals
- Helps protect cells from reactive pro-oxidant molecules
- Possesses much greater free radical scavenging capacity than vitamins E & C with 8 times the capacity for donating electrons
- Protects, supports and restores the potency of vitamins E & C

## Strengthens and Rebuilds Collagen

Collagen is a structural protein representing nearly 25% of all protein in the body. Collagen plays a role in tissue development, is the main component of soft tissue, cartilage, ligaments, tendons, bone and teeth, and is present in the cornea and lens of the eye. Collagen is responsible for skin strength and for strengthening and maintaining healthy blood vessels.

### Key Biological Functions

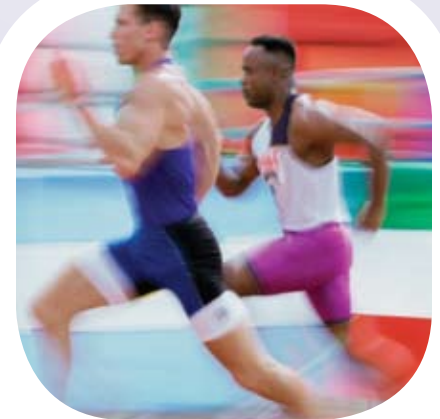
- Selectively affixes to collagen and elastin, particularly in tissues rich with glycosaminoglycans, to preserve elasticity and resiliency
- Protects collagen and elastin by inhibiting the destructive effects of collagenase and elastase enzymes
- Co-factors with Vitamin C to create and preserve collagen protein
- Neutralizes harmful effects of reactive molecules by blocking their attachment to collagen microfibrils



- Enhances the ability of collagen to repair itself, thereby protecting against age-related and degenerative processes

## Protects and Strengthens Cardiovascular (Circulatory) System

The cardiovascular system is found everywhere within the body. It circulates blood, nutrients, gases, and wastes to and from cells; also helps fight diseases and stabilizes both body temperature and pH balance within the human body. Considered the most vulnerable biological system.



### Key Biological Functions

- Protects against lipid oxidation in vascular endothelial cells
- Strengthens capillary walls and micro-capillaries; improves capillary resistance and prevents capillary leakage
- Readily crosses the blood-brain barrier enhancing vascular strength and elasticity improving circulatory efficiency, thus contributing to overall improved brain function
- Reduces the damaging effects of destructive enzymes elastase, collagenase and hyaluronidase
- Reduces platelet adhesion by altering the prostaglandin pathway to increase anti-adhesion factor

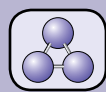
# MASQUELIER'S® OPCs

- Proven to prevent the oxidation of LDL cholesterol by scavenging oxidative free radicals with greater efficiency than vitamin E
- Helps prevent the buildup of oxidized cholesterol on artery walls
- Aids in the production of endothelial nitric oxide, which helps to vasodilate blood vessels
- Have beneficial effects on blood pressure by reducing risk of an increase in blood pressure
- Relieves functional problems of varicose veins
- Reduces pressure in ophthalmic membranes by preventing abnormal leakage of fluids into the orbital cavity

## Additional Biological Functions

- Normalizes metabolic events that trigger the inflammatory response
- Inhibits edema, reducing fluid and blood serum leakage into surrounding tissues
- Blocks the histamine process by forming a barrier around cell membranes preventing the entry of destructive enzymes
- Prevents the excessive formation of histidine that can trigger allergic and inflammatory reactions
- Reduces the risk of developing diabetic retinopathy and other ophthalmic abnormalities by improving microcirculation in the eye
- Improves visual adaptation in different light conditions and supports eye function
- Reduces discomfort associated with PMS and menopause

## Key Structure and Function Claim Categories



Antioxidant



Collagen/Skin



Cardiovascular/  
Circulatory System



Leg Veins



Eye Health



Sports Recovery



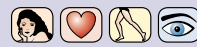
Anti-aging

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

## Examples of FDA Notified Structure & Function Claims



MASQUELIER'S® OPCs strengthens collagen protein by affixing itself to the collagen microfibrils, or filaments, and forming hydrogen bridges which strengthen and protect tissues and organs.



The biochemical mechanism of MASQUELIER'S OPCs in forming hydrogen bridges promotes elasticity and resiliency of collagen, an important factor in maintaining the health of the body's connective tissues.



MASQUELIER'S OPCs offers protection to the body's cells from reactive molecules, known as free radicals, which can induce enzymatic cellular changes.



MASQUELIER'S OPCs functions biochemically to stabilize cell membranes, an important factor in maintaining cellular and organ health.



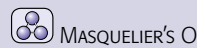
MASQUELIER'S OPCs functions biochemically to neutralize the hyaluronidase, collagenase, elastase and histidine decarboxylase, thereby supporting the body's natural antioxidant defense system. This is an essential process in preserving the skin's elasticity and maintaining the health of connective tissue.



Because of its ability to strengthen vascular systems and neutralize the potentially harmful effect of free radicals, MASQUELIER'S OPCs provides nutritional support for the maintenance of good cardiovascular health.



The free radical scavenging activity of MASQUELIER'S OPCs supports the body's natural antioxidant defense system by providing important protection to cell membranes from the potentially harmful effects of alterations in cellular structure caused by free radicals, a process associated with the effects of aging.



MASQUELIER'S OPCs functions as an antioxidant to chelate transition metals such as iron, zinc, manganese and copper. When these metals are in ionic form, they can become dangerous pro-oxidants in the body.



MASQUELIER'S OPCs acts to preserve vitamin C through a bio-chemical blocking mechanism, which prevents the formation of ascorbate oxidase, an enzyme that destroys vitamin C.



Functioning as a powerful antioxidant, MASQUELIER'S OPCs is a potent free radical scavenger that can neutralize the naturally occurring pro-oxidative effects of cellular metabolism. Free radical scavenging of pro-oxidant molecules is an essential process in safeguarding the health and viability of the body's cells, tissues and organ systems.



MASQUELIER'S OPCs prevents the release of histamine by forming a barrier around cell membranes to block the entry of destructive enzymes onto the cells' lysosome, where histamine is contained. The release of histamine is known to increase capillary permeability that results in the leakage of serous fluid from cellular tissues.



As a powerful antioxidant MASQUELIER'S OPCs provides nutritional support for the body's natural antioxidant defense system to insulate cells, protecting the integrity of cellular membranes and tissues from free radical induced changes that can trigger the development of inflammatory processes.



As a highly reactive antioxidant supporting the body's natural antioxidant defense system, MASQUELIER'S OPCs can penetrate both aqueous and lipid cellular membranes, functioning to protect LDL cholesterol from free radical attack. LDL cholesterol is essential to the maintenance of a strong and healthy heart.



MASQUELIER'S OPCs provides protection to vascular walls by activating the metabolism of collagen and elastin, which strengthens vascular membranes and helps the body to safeguard against cellular destruction.



MASQUELIER'S OPCs inhibits premature aging by preventing over cross-linking of collagen proteins and polypeptides. Cross-linking increases as we grow older and may result in the hardening of tissues, producing both visible and non-visible signs of aging.

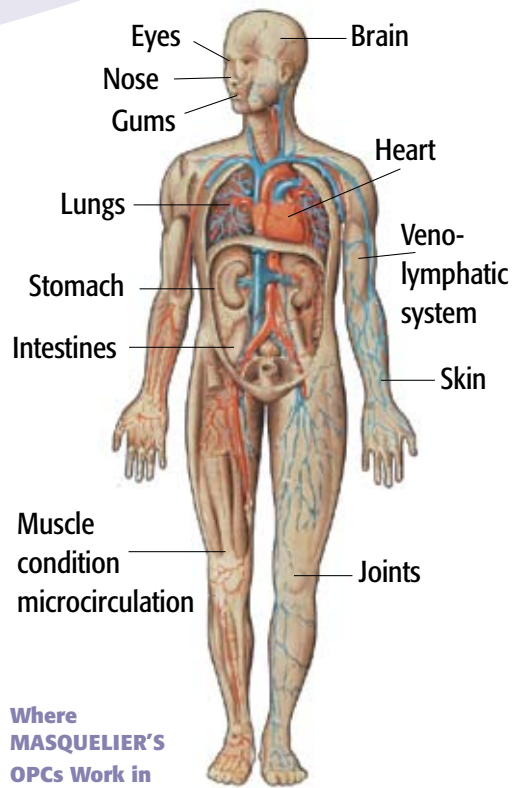


Vitamin C is essential for maintaining collagen's elasticity. As a scientifically proven co-factor of vitamin C, MASQUELIER'S OPCs stimulates the process of collagen biosynthesis, which enhances the recovery and production of collagen.

# MASQUELIER'S® French Pine Bark Extract, FLAVAN®

Health benefits of Masquelier's OPCs have been demonstrated at 50–300mgs per day, depending upon personal health and dietary habits. If dealing with a specific health problem, it is best advised to consult a physician who also understands the important role of nutrient care. Masquelier's OPCs should be taken with a glass of water or fruit-juice, not with milk or other protein containing drinks.

No toxic effects have ever been seen from Masquelier's OPCs.



## Where MASQUELIER'S OPCs Work in the Body

In vivo, MASQUELIER'S products primarily concentrate in connective tissues rich in collagen and glycosaminoglycans; the highest uptake occurs in blood vessels and particularly the aorta. Rapidly absorbed. Highly bio-available.

With growing consumer awareness, there is a well-defined pine bark extract category in the North American market all built upon the original discovery and scientific work of Dr. Jack Masquelier. None of the leading pine bark extracts on the market compare in quality or price to MASQUELIER'S French Pine Bark Extract (FLAVAN).



Following this significant discovery in human health and nutrition, a substantial body of clinical science was performed. As far back as 1951, the first FLAVAN patent was registered, followed by the extensive testing of MASQUELIER'S FLAVAN throughout the 1960's to obtain a pharmaceutical registration from the French Ministry of Health. Further, to enable the large-scale industrial production, Dr. Masquelier patented a production method, and subsequently obtained another patent describing the various vascular protecting properties of FLAVAN (later also filed in England and the U.S.). FLAVAN is still today medically prescribed in France for its cardiovascular system protective and strengthening properties.

Because MASQUELIER'S French Pine Bark Extract (FLAVAN), has been thoroughly studied and is known to have extensive vital effects on the human biology, the importance of this material for overall health cannot be overstated. MASQUELIER'S French Pine Bark Extract (FLAVAN), contains critical components supporting tissue health throughout the body with substantiated biological benefits in these categories: antioxidants, cardiovascular system protection, leg veins, inflammation and edema, eye health, brain health, and anti-aging. It maintains the integrity of collagen throughout the body, which most impacts connective tissue such as tendons, ligaments, cartilage, and most importantly, skin and blood vessels linings.

## Key Biological Functions

- Supports the body's natural antioxidant defense system as a powerful free radical scavenger by providing important protection to cell membranes from the potentially harmful effects of alterations in cellular structure caused by free radicals, a process associated with the effects of aging; safeguards the health and viability of the body's cells, tissues and organ systems
- Supports the body in maintaining circulatory function, especially in the capillaries, which form the delicate part of the system where the actual exchange of nutrients between blood and tissues takes place
- Strengthens and protects blood vessel walls by reducing fragility
- Supports the eyes as an antioxidant and also for properties that strengthen capillaries and improve circulation
- Supports delivery of essential nutrients to the top layers of the skin, beneficial for skin health
- Supports circulatory health in the legs by maintaining venous sufficiency and by relieving symptoms such as heavy legs and the feeling of swollenness
- Supports vascular integrity, especially relevant for older people since circulatory integrity is often compromised in this population
- Reduces menstrual cramps, abdominal pain and tenderness
- Reduces edema of hepatic insufficiency, and edema of the legs

## **Your Brand, Our Story and the Proven Efficacy of MASQUELIER'S® OPCs & French Maritime Pine Bark**

MASQUELIER'S® OPCs & French Pine Bark Extract are efficacious in the broadest possible range of physiological processes, are highly bio-active, and are rapidly absorbed. Sixty years of product specific, solid scientific research and clinical studies ensure consistency in quality, composition, and the health benefits that impact the vital functioning of the whole body.

Exclusive North American Distributor of  
the MASQUELIER'S® Ingredients

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Ingredients

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MASQUELIER'S® OPCs



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