



# Clinical Research

## Quick reference guide

Juice Plus+ Essentials Capsules are the most thoroughly researched nutritional products of their kind.

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# High-quality Research

Juice Plus+ Essentials Capsules are supported by more than 40 peer-reviewed scientific publications from clinical studies on the products themselves — the vast majority as randomized clinical trials.



## RANDOMIZED

A study is randomized when participants are assigned to one of several study groups randomly. This way, the effects of the interventions can be compared more fairly.



## PLACEBO-CONTROLLED

A study is placebo-controlled when it tests the effects of an active intervention (such as a drug in pill form) against an identical “fake” intervention (such as a sugar pill). This eliminates beneficial effects of an active pill due to a participant's belief in it.



## DOUBLE-BLINDED

A study is double-blind when neither the investigating researchers nor the study participants know who is receiving the active pill and who is receiving the placebo. This helps eliminate the power of suggestion.

## Where has the research been conducted?

- +
- Academic Centre for Dentistry (Amsterdam, Netherlands)
- Biofortis Inc. (IL, USA)
- Brigham Young University (UT, USA)
- Charité University Medical Centre (Berlin, Germany)
- Cytosolve Inc. (DE, USA)
- Georgetown University (DC, USA)
- Harbor UCLA Medical Center (CA, USA)
- Harvard Medical School (MA, USA)
- Heinrich Heine University (Düsseldorf, Germany)
- King's College London (London, UK)
- Medical Research Council (Cambridge, UK)
- Medical University of Graz (Graz, Austria)
- Medical University of Vienna (Vienna, Austria)
- National Council of Research (Pisa, Italy)
- Nemours Children's Clinic (FL, USA)
- New York Medical College (NY, USA)
- Purdue University (IN, USA)
- St. Michael's Hospital (Toronto, Canada)
- Texas Extension Education Foundation Inc. (TX, USA)
- Tokyo Women's Medical University (Tokyo, Japan)
- Tufts University (MA, USA)
- UCAM Catholic University of Murcia (Murcia, Spain)
- University of Alabama (AL, USA)
- University of Arizona (AZ, USA)
- University of Birmingham (Birmingham, UK)
- University of Florida (FL, USA)
- University of Maryland School of Medicine (MD, USA)
- University of Memphis (TN, USA)
- University of Milan (Milan, Italy)
- University of Mississippi Medical Center (MS, USA)
- University of Newcastle (Callaghan, Australia)
- University of North Carolina Greensboro (NC, USA)
- University of Parma (Parma, Italy)
- University of Padova (Padova, Italy)
- University of Reading (Reading, UK)
- University of Saskatchewan (SK, Canada)
- University of South Carolina (SC, USA)
- University of Sydney (Sydney, Australia)
- University of Texas Health Science Center (TX, USA)
- University of Texas MD Anderson Cancer Center (TX, USA)
- University of Toronto (ON, Canada)
- University of Witten-Herdecke (Witten, Germany)
- University of Würzburg (Würzburg, Germany)
- Vanderbilt University (TN, USA)
- Wake Forest University (NC, USA)
- Yale University-Griffin Prevention Research Center (CT, USA)
- Zeta Research (Trieste, Italy)

# Going above and beyond



Research on Juice Plus+ goes beyond the gold standard of randomized, double-blind, placebo-controlled human clinical trials.

## TESTED ON THE PRODUCT ITSELF



Multiple studies on Juice Plus+ Essentials Capsules have been conducted on the actual finished products — not on individual ingredients in the products. This is very rare in the nutritional products industry.

PUBLISHED IN PEER-REVIEWED JOURNALS



All studies on Juice Plus+ Essentials Capsules have been published in peer-reviewed scientific journals, meaning their scientific merit has been confirmed by other experts in the field. Peer review filters out poorly conducted studies and flawed conclusions.

## ETHICAL



All studies on Juice Plus+ Essentials Capsules are conducted ethically. According to the World Health Organization, research that is ethical protects "the dignity, rights and welfare of research participants." It minimizes harm to participants, maximizes benefits, and takes special care with vulnerable populations.



## How strong is the Juice Plus+ Clinical Research Program?

An impact factor measures a scientific journal's impact, or influence, in the scientific community. The more a journal's articles are cited in other articles published in other journals, the higher its impact factor. (Much like YouTube views!) A good research program has an impact factor of 10-15. The impact factor of the Juice Plus+ research program is nearly 200!

## Overview of the research findings

Juice Plus+ Essentials Capsules:

- + are bioavailable
- + support immune function
- + provide antioxidant protection
- + decrease biomarkers of inflammation
- + protect DNA from oxidation
- + improve key cognitive processes
- + support healthy skin
- + support dental health
- + support cardiovascular health
- + support lung function
- + support metabolic health
- + reduce exercise-induced oxidation
- + support gut health
- + increase the Omega-3 Index



# What has the research found?

## Bioavailability

For a nutritional product to be effective, it must enter the circulatory system. Bioavailability measures how much of an ingested substance makes it into the bloodstream and cells.

More than 20 scientific papers published over 25 years have found that Juice Plus+ Essentials Capsules have excellent bioavailability. They effectively increase blood levels of micronutrients — like vitamins, carotenoids, and polyphenols — in children as well as in young, middle-aged, and elderly adults.



## Dental Health

Healthy gums are important to protect the tooth root and the underlying bone. Healthy gums also provide an important barrier between the mouth and the rest of the body.

One study found that Juice Plus+ Essentials Capsules, when added to standard deep-cleaning treatment, support gum health and decrease gum bleeding and plaque accumulation above and beyond the effects of the cleaning alone. Another study showed they support a healthy recovery from lower third molar surgery, improving quality of life.



## Cardiovascular Health

Your cardiovascular system is made up of your heart and a network of blood vessels, whose job is to transport life-giving blood to every cell of your body. Cardiovascular health is influenced by multiple factors, including blood pressure, blood lipids, homocysteine (a biomarker for cardiovascular health), and blood vessel elasticity.

Combined results of multiple studies show Juice Plus+ Essentials Capsules help maintain blood pressure, total cholesterol, LDL cholesterol, and homocysteine (a biomarker for cardiovascular health) levels that are already within a healthy range. Juice Plus+ Essentials Capsules have also been found to support the normal, healthy elasticity of the arteries and to blunt the effects of a high-fat meal on vasodilation.

## DNA and Nutrigenomics

DNA contains the genetic code that provides instructions to build proteins and to construct and repair cells. When exposed to oxidative stress, the structural integrity of your DNA can become compromised.

Combined results from six studies show that Juice Plus+ Essentials Capsules protect DNA from oxidation, supporting its structural integrity. Research on nutrition and gene interactions (nutrigenomics) has demonstrated that several genes were changed beneficially after Juice Plus+ Essentials Capsules intervention. These include genes that affect how the body stores fat, reacts to injury, produces energy, and maintains healthy blood sugar levels.



## Athletic Performance

Exercise is a double-edged sword. While it has many documented health benefits, intense exercise can increase inflammation and oxidative stress.

A randomized, placebo-controlled human clinical trial found that Juice Plus+ Essentials Capsules attenuate the increase in several markers of oxidative stress following physical exercise. Other studies have confirmed that Juice Plus+ Essentials Capsules reduce oxidation in trained men and women.



## Metabolic Health

Metabolic health depends on five key characteristics: blood pressure, blood sugar, abdominal fat, cholesterol, and triglycerides.

Juice Plus+ Essentials Capsules support metabolic health in children and adults. A study in overweight prepubescent boys showed that they support the body's ability to use insulin effectively and help improve body composition by reducing abdominal fat.

Juice Plus+ Essentials Capsules have also been found to support healthy body composition in adults by increasing lean body mass. Additionally, they help maintain total cholesterol, LDL cholesterol, and blood pressure levels that are already in the normal range.

## Healthy Skin

Proper circulation is important for healthy skin. It ensures nutrients and oxygen get to your skin tissue, giving it a healthy glow.

Two double-blind, placebo-controlled studies have found that Juice Plus+ Essentials Capsules increase skin micro-circulation. One showed that they increase skin micro-circulation by 39%, while boosting skin hydration, thickness, and density in middle-aged women.



## Inflammation

Your body is equipped with an inflammation response as part of your immune system. It's a normal and important reaction to injury or threat, provided it turns on and off appropriately. When inflammation is ongoing, it can wreak havoc in the body.

Combined results from several studies show that Juice Plus+ Essentials Capsules decrease levels of several key biomarkers of inflammation. These studies were conducted in diverse populations, such as physically fit men and overweight men and women.



## Gut Health

The microbiome is the unique collection of microbes — some good, some bad — that inhabit our bodies. The composition of the gut microbiome has been shown to influence many areas of physical and mental health.

A two-phase study in overweight women found that Juice Plus+ Essentials Capsules and Complete by Juice Plus+ shakes positively impact the gut microbiome.



## Antioxidant Protection

Free radicals are unstable molecules that cause oxidation. Each one of your cells is bombarded by approximately 10,000 free radical "hits" per day. When your body's antioxidant capacity is overwhelmed by free radicals, it enters a state of oxidative stress.

Numerous scientific papers have reported increased levels of key antioxidants in the bloodstream after taking Juice Plus+ Essentials Capsules, which allows the body to protect lipids and proteins from oxidation. This effect has been documented among various populations, including exercisers, obese women, smokers, and more.



## Lung Function

Strong lungs are necessary to take in the oxygen you need to live. Oxygen moves from your lungs into the bloodstream, where it is carried to every cell in your body.

A double-blind, placebo-controlled study of smokers found that Juice Plus+ Essentials Capsules support several parameters of healthy lung function, including forced expiratory flow and diffusion capacity. These parameters measure the flow and volume of air entering and exiting the lungs.



## Omega-3 Index

The Omega-3 Index measures the amount of the omega-3 fatty acids DHA and EPA in red blood cells. Achieving an Omega-3 Index of 8-12% has been linked with a variety of positive health outcomes.

A randomized, controlled clinical study in healthy adults found that plant-based Juice Plus+ Essentials Omega Blend Capsules significantly increase the Omega-3 Index after 8 weeks of supplementation, with an even greater increase seen after 16 weeks.

## Cognitive Function

Cognitive function is important for young and old alike. How well our cognitive processes work affects everything from our everyday functioning to future planning.

A randomized, placebo-controlled, double-blind clinical study conducted on healthy, young adults found that Juice Plus+ Essentials Capsules improve key cognitive processes, including working memory, selective attention, processing speed, and executive function.



## Immune function

Your immune system is responsible for keeping you from harm. When it detects a breach has occurred, it immediately targets the intruder through a complex system involving white blood cells, antibodies, and chemical messengers.

Juice Plus+ Essentials Capsules have been the subject of four different studies on immunity conducted on four different populations: healthcare professionals with direct patient contact, young law school students, an elderly population, and athletic men. The combined results of these studies show that Juice Plus+ Essentials Capsules support the function of the immune system, and encourage upper respiratory health.



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