juiceplus+®

Clinical Research

The Juice Plus+ Company has a long history of developing partnerships with leading academic experts to fund research that investigates the healthful benefits of our Fruit, Vegetable, Berry, and Omega Blend capsules.

Studies Underway

University of Alabama:

In this double-blind, placebo-controlled clinical trial the researchers investigate whether Juice Plus+capsules can affect cognitive function of middle age adults by examining its effect on biological markers linked to cognitive decline.

Cytosolve, Inc.

Cytosolve, Inc, a research platform in Massachusetts, conducts a non-clinical study with an "insilico" systems biology approach on how Juice Plus+ capsules exert anti-inflammatory and anti-oxidative effects by simulating appropriate molecular pathways.

University of Padova, Italy:

Researchers in Italy and Austria are working on the development of an interactive world map on fruit and vegetable consumption, and how this is linked to nutrient deficits and health care cost burden in different countries.

University of Newcastle:

Researchers in Australia investigate in a randomized clinical trial, the effect of Complete by Juice Plus+, in combination with resistance exercise, on body composition, bone health, muscle strength and function, as well as gene expression of important health relevant pathways in the elderly.

Biofortis Research and Tufts University:

In a randomized, double-blind, placebo-controlled clinical trial the researchers determine whether Juice Plus+ can slow or reverse signs of metabolic aging by enhancing mitochondrial capacity in older overweight and obese individuals.

Completed Studies

Immune Function

The immune system works through a complex interplay of white blood cells, antibodies, and chemical messengers to protect you from harm.

Juice Plus+® 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+® capsules support the normal function of the immune system and support upper respiratory health.

- Integrative Medicine, 1999; University of Arizona
- Journal of Nutrition, 2006; University of Florida
- Journal of Nutrition, 2007; Medical University of Graz, Austria
- British Journal of Nutrition, 2011; Charité University Medical Centre, Berlin, Germany

Bioavailability

Bioavailability measures how much of an ingested substance makes it into your bloodstream and cells.

More than 20 scientific papers published over 25 years have found that Juice Plus+® capsules have excellent bioavailability. They effectively increase blood levels of vitamins, carotenoids, and polyphenols in people of all ages.

- Current Therapeutic Research, 1996; University of Texas Health Science Center
- Nutrition Research, 1999; Brigham Young University; University of Arizona
- Integrative Medicine, 1999; University of Arizona
- Journal of Human Nutrition and Dietetics, 2000; King's College, London, England
- Journal of the American College of Nutrition, 2004; Medical University of Vienna, Austria
- Clinical Chemistry and Laboratory Medicine, 2006; University of Milan, Italy
- Journal of Nutrition, 2006; University of Florida
- Medicine and Science in Sports and Exercise, 2006; University of North Carolina
- Asia Pacific Journal of Clinical Nutrition, 2007; Tokyo Women's Medical University, Japan
- Evidence Based Complementary and Alternative Medicine, 2007; Vanderbilt University-School of Medicine
- International Journal of Food Sciences and Nutrition, 2009; Georgetown/UCLA
- Molecular Nutrition and Food Research, 2010; University of South Carolina
- Skin Pharmacology and Physiology, 2012; Heirich-Heine University Dusseldorf; University of Witten-Herdecke, Germany
- Journal of Clinical Periodontology, 2012; The University of Birmingham, United Kingdom;
 Heinrich-Heine University Dusseldorf
- Gynecologic Oncology, 2012; University of Texas/MD Anderson Cancer Center
- Journal of Pediatrics, 2012; Nemours Children's Clinic
- Pharma Nutrition, 2015; University of Parma, Italy. University of Cambridge, England
- Nutrients 2017; University of Parma, Italy. Medical University of Graz, Austria
- Samman 2003 (J Nutr)
- Gorecki 2017 (Clin Nutr)
- Dams 2019 (Int J Vitam Nutr Res, a secondary study)
- Dams 2020 (Int J Food Sci Res)

Antioxidant Protection

When the 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+® capsules, which protect lipids and proteins from oxidation. This effect has been documented among various populations, including exercisers, obese women, smokers, and more.

- Current Therapeutic Research, 1996; University of Texas, Health Science Center
- Journal of Human Nutrition and Dietetics, 2001; Kings College, England
- Clinical Chemistry and Laboratory Medicine, 2006; University of Milan, Italy
- Journal of Nutrition, 2006; University of Florida

- Journal of Nutrition, 2007; Medical University of Graz, Austria
- Medicine and Science in Sports and Exercise, 2006; University of North Carolina
- Asia Pacific Journal of Clinical Nutrition, 2007; Tokyo Women's Medical University
- Applied Physiology, Nutrition, and Metabolism, 2007; University of North Carolina
- International Journal of Food Sciences and Nutrition, 2009; Georgetown/Harbor-UCLA
 Medical Center
- Medicine and Science in Sports and Exercise, 2009; Medical University of Graz, Austria
- Molecular Nutrition and Food Research, 2010; University of South Carolina
- Medicine and Science in Sports and Exercise, 2011; University of North Carolina
- Journal of the American College of Nutrition, 2011; University of Milan, Italy
- British Journal of Nutrition, 2013; Medical University of Graz, Austria
- Arcusa 2021 (Molecules)
- Arcusa 2022 (Antioxidants)

Inflammation

Inflammation is a normal and important reaction to injury or threat, provided it turns on and off appropriately. Combined results from several studies show that Juice Plus+® 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.

- Journal of Nutrition, 2007; Medical University of Graz, Austria
- Molecular Nutrition and Food Research, 2010; University of South Carolina
- British Journal of Nutrition, 2013; Medical University of Graz, Austria
- Nutrients, 2017; Hunter Medical Research, University of Newcastle, Australia
- Arcusa 2021 (Molecules)
- Ayyadurai 2022 (Clin Nutr)
- Arcusa 2022 (Antioxidants)

DNA and Nutrigenomics

DNA contains the genetic code that provides instructions to build proteins and to construct and repair cells. Combined results from six studies show that Juice Plus+® 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+® capsule intervention. These include genes that affect how the body stores fat, reacts to injury, produces energy, and maintains healthy blood sugar levels.

- Nutrition Research, 1999; Brigham Young University; University of Arizona
- Journal of the American College of Nutrition, 2004; Medical University of Vienna, Austria
- Journal of Nutrition, 2006; University of Florida
- Asia Pacific Journal of Clinical Nutrition, 2007; Tokyo Women's Medical University, Japan
- Molecular Nutrition and Food Research, 2012; University of South Carolina; Yale University
- Nutrients, 2017; Hunter Medical Research, University of Newcastle, Australia

Cognitive Function

How well your cognitive processes work affects everything from everyday functioning to future planning.

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

Antioxidants, 2021; UCAM Catholic University of Murcia, Spain

Skin Health

Proper circulation ensures nutrients and oxygen reach your skin tissue, giving it a healthy glow. Two double-blind, placebo-controlled studies have found that Juice Plus+ capsules increase skin micro-circulation. One showed that Juice Plus+® capsules increase skin micro-circulation by 39%, while boosting skin hydration, thickness, and density in middle-aged women.

Skin Pharmacology and Physiology, 2012; Heinrich Heine University Dusseldorf; University of Witten-Herdecke, Germany

British Journal of Nutrition, 2013; University of Graz, Austria

Gum Health

Healthy gums are important to protect the tooth root and the underlying bone. Juice Plus+® 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.

Journal of Clinical Periodontology, 2012; The University of Birmingham, UK Heinrich-Heine <u>Dusseldorf</u>

Clinical Nutrition, 2017; University of Birmingham, UK

Cardiovascular Health

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+® capsules help maintain blood pressure, total cholesterol, LDL cholesterol, and homocysteine levels already within a healthy range. Juice Plus+® capsules have also been found to support the normal, healthy elasticity of the arteries.

Journal of American College of Cardiology, 2003; University of Maryland School of Medicine
Journal of Nutrition, 2003; University of Sydney, Australia
Nutrition Research 2003; Local Healthcare Unit, Foggia, Italy
Chemical Chemistry and Laboratory Medicine, 2006; University of Milan, Italy

- Asia Pacific Journal of Clinical Nutrition, 2007; Tokyo Women's Medical University, Japan
- Evidence Based Complementary and Alternative Medicine, 2007; Vanderbilt University, School of Medicine
- Journal of the American College of Nutrition, 2011; University of Milan, Italy
- Journal of American College of Nutrition, 2013; University of Milan, Italy

Lung Function

Strong lungs are necessary to take in the oxygen you need to live. A double-blind, placebo-controlled study of 75 smokers found that Juice Plus+® 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.

Journal of the American College of Nutrition, 2013; University of Milan, Italy

Metabolic Health

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

Juice Plus+ capsules support metabolic health in children and adults. Two studies in overweight prepubescent boys show that Juice Plus+ capsules support the body's ability to use insulin effectively and help improve body composition by reducing abdominal fat.

Juice Plus+ 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.

- Journal of Pediatrics, 2012; Nemours Children's Clinic
- British Journal of Nutrition, 2013; Medical University of Graz, Austria
- Journal of Nutritional Science, 2015; Nemours Children's Clinic
- Nutrients, 2017; Hunter Medical Research, University of Newcastle, Australia

Athletic Performance

While exercise has many documented health benefits, exercising intensely can increase inflammation and oxidative stress.

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

Medicine & Science in Sports & Exercise, 2011; University of North Carolina Greensboro

Gut Health

The composition of the gut microbiome — the unique collection of microbes inhabiting the gut of an individual — has been shown to influence many areas of physical and mental health.

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

Microorganisms, 2021; University of Memphis

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+ Omega Blend capsules significantly increase the Omega-3 Index after 8 weeks of supplementation, with an even greater increase seen after 16 weeks.

International Journal of Food Sciences and Nutrition, 2020; Medical University of Graz, Austria

Universities, Hospitals, and Research Centers:

Academic Centre for Dentistry

Biofortis

Brigham Young

Charité University Medical Centre

· Cytosolve Inc.

Georgetown University

Harbor UCLA Medical Center

Harvard Medical School

Heinrich Heine University

King's College London

Medical Research Council

Medical University of Graz

Medical University of ViennaNational Council of Research

National Council of Nesea
 Nemours Children's Clinic

• New York Medical College

Purdue University

St. Michael's Hospital

Texas Extension Education Foundation Inc.

Tokyo Women's Medical University

Tufts University

UCAM Catholic University of Murcia

University of Alabama

University of Arizona

University of Birmingham

University of Florida

University of Maryland School of Medicine

University of Memphis

University of Milan

University of Mississippi Medical Center

University of Newcastle

University of North Carolina Greensboro

University of Parma

University of Padova
 University of Padova

University of Reading

University of Saskatchewan

University of South Carolina

University of Sydney

University of Texas Health Science Center

University of Texas MD Anderson Cancer Center

University of Toronto

University of Witten-Herdecke

University of Würzburg

Vanderbilt University

Wake Forest University

Yale University-Griffin Prevention Research Center

Zeta Research

Amsterdam, Netherlands

IL, USA

UT, USA

Berlin, Germany

DE, USA

DC, USA

CA, USA

MA, USA Düsseldorf, Germany

London, UK

Cambridge, UK

Graz, Austria

Vienna, Austria

Pisa, Italy

FL, USA

NY, USA

IN, USA

Toronto, Canada

TX, USA

Tokyo, Japan

MA, USA

Murcia, Spain

AL, USA

AZ, USA

Birmingham, UK

FL, USA

MA, USA

TN, USA

Milan, Italy

MS, USA

Callaghan, Australia

NC, USA

Parma, Italy

Padova, Italy

Reading, UK

SK, Canada SC, USA

Sydney, Australia

TX, USA

TX, USA

ON, Canada

Witten, Germany

Würzburg, Germany

TN, USA

NC, USA

CT, USA

Trieste, Italy