



WHAT MAKES PUREWAY-C™ SUPERIOR

Enhanced Absorption

- ✓ Highest absorption and uptake rates of all forms of vitamin C
- ✓ Uniquely enhanced bioavailability composition offers optimum levels of essential vitamin C
- ✓ Innovative formulation increases absorption speed
- ✓ 233% Higher retention by the human body than any other ascorbate brands⁴

No Competition

- ✓ Exclusive Vitamin C lipid fatty acid formula
- ✓ Trademark protected in several international classes covering varieties of goods and services
- ✓ Manufacturing process and its method of use are patent-pending

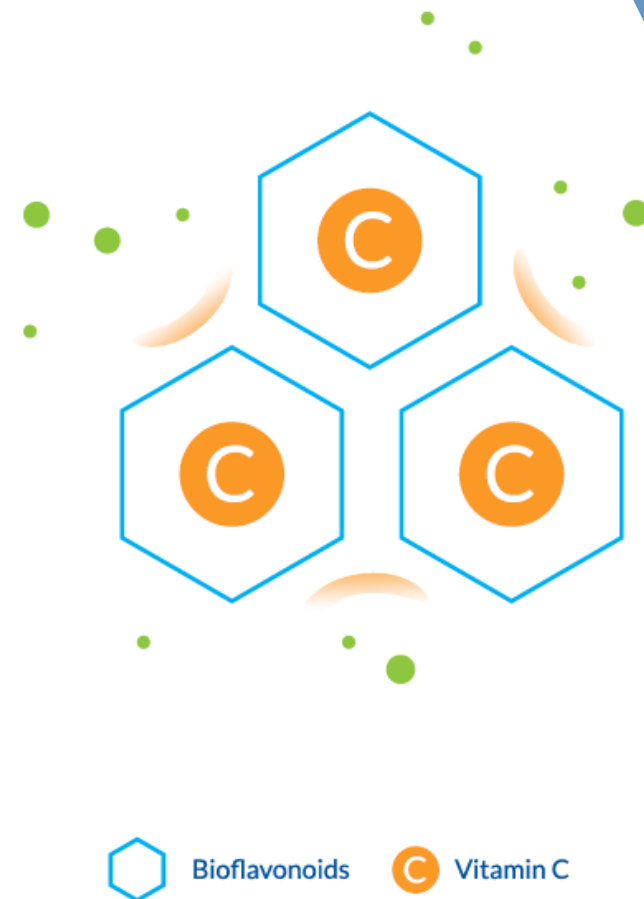
Product Benefits

- ✓ Backed by published, peer-reviewed research
- ✓ 100% Natural ingredients
- ✓ Vegan & Non-GMO
- ✓ Kosher & Halal Certified
- ✓ Allergen-Free
- ✓ GRAS-affirmed
- ✓ Many forms and applications

How does PureWay-C™ increase absorption and retention rate?

Bioflavonoid Composition

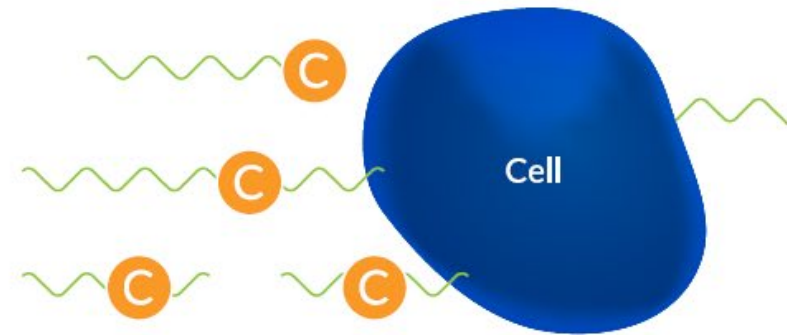
PureWay-C™'s Citrus bioflavonoids protect the vitamin C from oxidizers in the body and support the ability to protect against chronic inflammatory diseases, improve immune system function, and help heal wounds.



How does PureWay-C™ increase absorption and retention rate?

Proprietary Fatty Acid Formula

PureWay-C™'s fatty acids allow ascorbic acid to enter cells more quickly in a safe and effective manner, acting as ascorbic acid carriers to increase intestinal absorption and tissues distribution of vitamin C and enhance cellular uptake kinetics.



Feature Advantage Benefit

- ▶ **Feature:**
 - ▶ The formulation with the lipid metabolite delivery technology
- ▶ **Advantage:**
 - ▶ Bioavailability
 - ▶ Cellular uptake kinetics and retention
- ▶ **Benefit:**
 - ▶ Immune Support to...
 - ▶ Anti-inflammatory
 - ▶ Healthy neuron function and neuron outgrowth
 - ▶ Nervous system protection
 - ▶ Wound healing and collagen production
 - ▶ Antioxidant defense
 - ▶ Free radical scavenging to decrease oxidative stress
 - ▶ Cellular protection from pesticide toxins
 - ▶ Anti-aging





BACKED BY RESEARCH DATA

Reliable and peer-reviewed published studies.

Clinical trials conducted in vivo and in-vitro.

A breadth of substantiated structure/function and functional food claims in immune function, antioxidant, anti-aging and anti-inflammation categories.

Research conducted in two state-of-the-art universities.

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A novel vitamin C preparation enhances neurite formation and fibroblast adhesion and reduces xenobiotic-induced T-cell hyperactivation

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² Innovation Laboratories, Inc., Mount Sinai, NY, U.S.A.

Source of support: Departmental sources

Summary

Background:

Vitamin C (ascorbic acid, ascorbate) has been shown to enhance neurite outgrowth, promote fibroblast adhesion during wound healing, and reduce xenobiotic-induced leukocyte hyperactivity and inflammatory damage. In this study, a comparison was made between Ester-C® and PureWay-C™ on these various cellular activities.

Material/Methods:

PC12 cells were stimulated to form neurites with nerve growth factor, NIH 3T3 fibroblasts were seeded on fibronectin and H9 T-cells were stimulated to aggregate with the pyrethroid pesticide bifenthrin. The rate of neurite formation, fibroblast adhesion and T-cell homotypic aggregation was then measured in the absence and presence of various formulations of vitamin C including Ester-C® and PureWay-C™.

Results:

With PureWay-C™ treatment, 12% of PC12 cells extended neurites within one hour of treatment and 45% of the cells extended neurites by hour nine. With Ester-C®, 0% and 15% extended neurites at one and nine hours, respectively. NIH-3T3 fibroblast adhesion to fibronectin was enhanced by 4.7-fold with a 30 minute PureWay-C™ treatment while Ester-C® increased fibroblast adhesion by only 1.5 fold. Further, PureWay-C™ reduced pesticide-mediated T-cell homotypic aggregation by 83% within 30 minutes of treatment while the reduction seen with Ester-C® was only 33%.

Conclusions:

These data confirm the previous observations that vitamin C supplementation can promote neurite outgrowth, increase fibroblast adhesion and reduce xenobiotic induce immunocytes aggregation. More importantly, these data show that PureWay-C™ has a faster and greater beneficial effect on these parameters when compared to other vitamin C formulations.

key words:

vitamin C • neurite outgrowth • fibroblast adhesion • homotypic aggregation • bifenthrin

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Published: 2007.10.01

Absorption rates and free radical scavenging values of vitamin C-lipid metabolites in human lymphoblastic cells



Authors' Contribution:

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Data Interpretation
- E Manuscript Preparation
- F Literature Search
- G Funds Collection

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Source of support: Innovation Laboratories, Inc., Mount Sinai, NY, U.S.A.

Summary

Background:

In this study we investigated the cellular absorption rates, antioxidant and free radical scavenging activity of vitamin C-lipid metabolites. The absorption was measured in a human lymphoblastic cell line using a spectrophotometric technique.

Material/Methods:

Cellular vitamin C levels in the human lymphoblastic H9 cell line were measured using the 2,4-dinitrophenylhydrazine spectrophotometric technique. Free radical scavenging activity of vitamin C-lipid metabolites was measured by the reduction of 1,1-diphenyl-2-picryl hydrazyl (DPPH) to 1,1-diphenyl-2-picryl hydrazine. Vitamin C-lipid metabolite scavenging of peroxyl radical oxygen reactive species (ORAC) was determined by fluorescence spectrophotometry.

Results:

Compared to ascorbic acid (AA), calcium ascorbate (CaA), and calcium ascorbate-calcium threonate-dehydroascorbate (Ester-C®), vitamin C-lipid metabolites (PureWay-C™) were more rapidly absorbed by the H9 human T-lymphocytes. The vitamin C-lipid metabolites (PureWay-C™) also reduced pesticide-induced T-lymphocyte aggregation by 84%, while calcium ascorbate-calcium threonate-dehydroascorbate (Ester-C®) reduced aggregation by only 34%. The vitamin C-lipid metabolites (PureWay-C™) demonstrated free radical scavenging activity of nearly 100% reduction of DPPH at 20 µg/ml and oxygen radical scavenging of over 1200 µ Trolox® equivalents per gram.

Conclusions:

These data demonstrate that the vitamin C-lipid metabolites (PureWay-C™) are more rapidly taken-up and absorbed by cells than other forms of vitamin C, including Ester-C®. This increased rate of absorption correlates with an increased protection of the T-lymphocytes from pesticide toxicities. Further, vitamin C-lipid metabolites (PureWay-C™) are a potent antioxidant and have significant free radical scavenging capabilities.

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Vitamin C-lipid metabolites: Uptake and retention and effect on plasma C-reactive protein and oxidized LDL levels in healthy volunteers

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Source of support: Departmental sources

Summary

Background:

Previously, a novel formulation of vitamin C-lipid metabolites (PureWay-C®) was shown to be more rapidly taken-up by human T-lymphocytes and more rapidly stimulate neurite outgrowth, fibroblast adhesion and inhibition of xenobiotic-induced T-cell hyperactivation. Here, PureWay-C® serum levels were measured in healthy volunteers after oral supplementation. Plasma C-reactive protein and oxidized low density lipoprotein levels (LDL) were also measured.

Material/Methods:

Healthy volunteers maintained a low vitamin C diet for 14 days and, following an overnight fast, received a single oral dose of (vitamin C) 1000 mg of either ascorbic acid (AA), calcium ascorbate (CaA), vitamin C-lipid metabolites (PureWay-C®), or calcium ascorbate-calcium threonate-dehydroascorbate (Ester-C®). Blood samples were collected immediately prior to the oral dose administration and at various times post ingestion. Twenty-four-hour urine collections were saved for oxalate and uric acid assays.

Results:

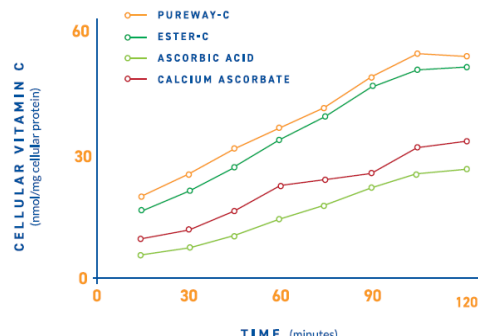
PureWay-C® supplementation leads to the highest absolute serum vitamin C levels when compared to AA, CaA and Ester-C®. PureWay-C® provides a statistically significant greater serum level than calcium ascorbate at 1, 2, 4, and 6 hours post oral supplementation whereas Ester-C® shows a less but slightly statistically significant increase at only 1 and 4 hours. Oral supplementation with PureWay-C® also led to a greater reduction in plasma C-reactive protein and oxidized LDL levels compared to the other vitamin C formulations.

Conclusions:

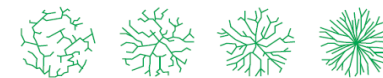
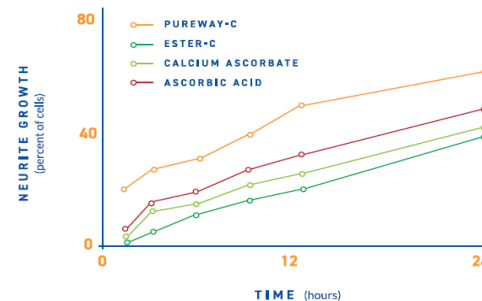
PureWay-C® is more rapidly absorbed and leads to higher serum vitamin C levels and greater reduction of plasma levels of inflammatory and oxidative stress markers than other forms of vitamin C, including Ester-C®.

More rapidly absorbed and more highly retained (233% higher) by the human body

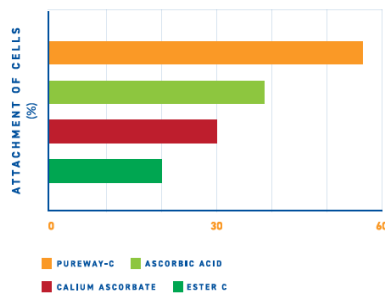
than all forms of vitamin C tested for all time points



More rapidly stimulated healthy neurons (12-fold more efficiently) and promotes nerve regeneration more efficiently than all forms of vitamin C tested for all time points

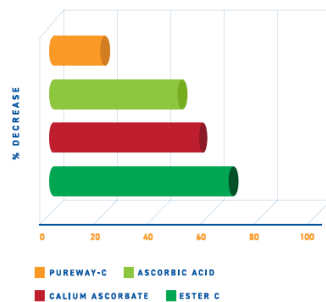


NEURON GROWTH



More rapidly promoted fibroblast wound healing (3-fold more efficiently)

than all forms of vitamin C tested for all time points

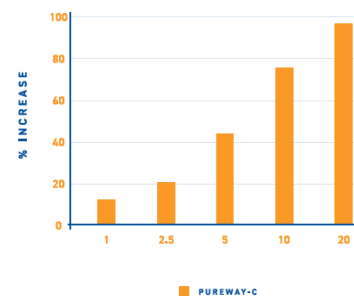


Decreased xenobiotic induced inflammatory mechanisms (2.5-fold more efficiently)

than all forms of vitamin C tested for all time points

Delivers effective antioxidant (12% higher) and free-radical scavenging activity (11% higher)

using the (ORAC) and (DPPH) methods



Additionally, PureWay-C™ delivers effective antioxidant (12% higher) and free-radical scavenging activity (11% higher) using the (ORAC) and (DPPH) methods

PUREWAY-C™
IS NOT ASSOCIATED WITH ANY
ADVERSE
EFFECTS TYPICALLY ASSOCIATED
WITH MEGADOSES OF
VITAMIN C



HEALTHY PARTICIPANTS REPORTED NONE
OF THE FOLLOWING SYMPTOMS:

NAUSEA*
HEARTBURN*
EPIGASTRIC PAIN*
ABDOMINAL CRAMPS*
DIARRHEA*
UPSET STOMACH*
INDIGESTION*

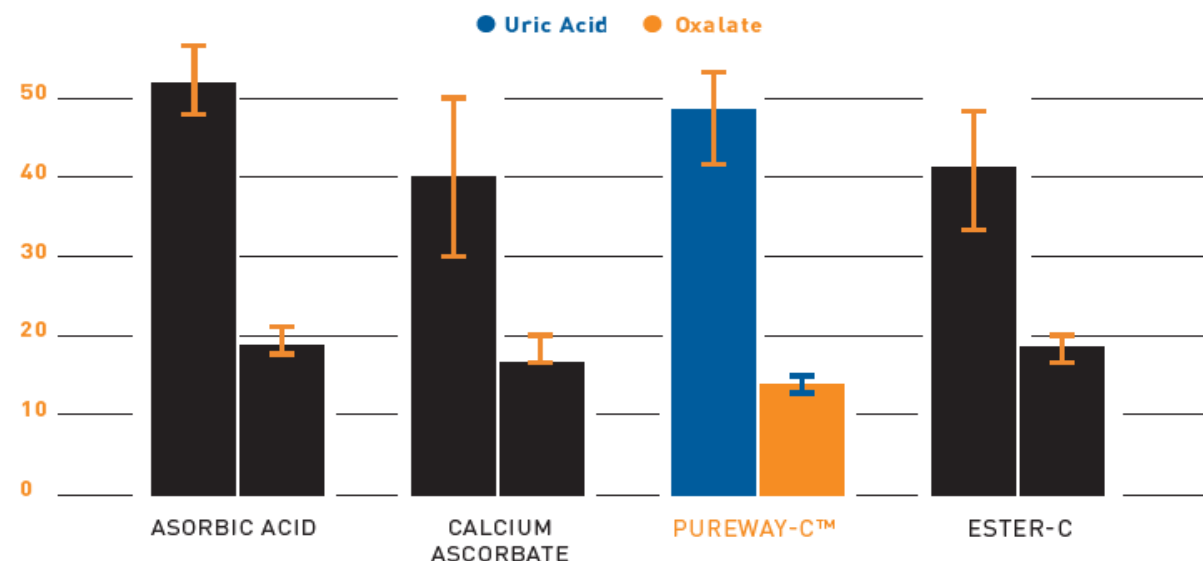


*Study conducted at the University of Miami, 2008

URINE URIC ACID AND
OXALATE LEVELS WERE NOT
SIGNIFICANTLY ELEVATED



URINE MARKERS (MG/DL)



PUREWAYTM

Antioxidant Super Nutrient

A TRADEMARK OF  **one**
INNOVATION
LABS

