



PureWay-C® is a proprietary, scientifically researched form of vitamin C that contains lipid metabolites and citrus bioflavonoids for better delivery, absorption and uptake.



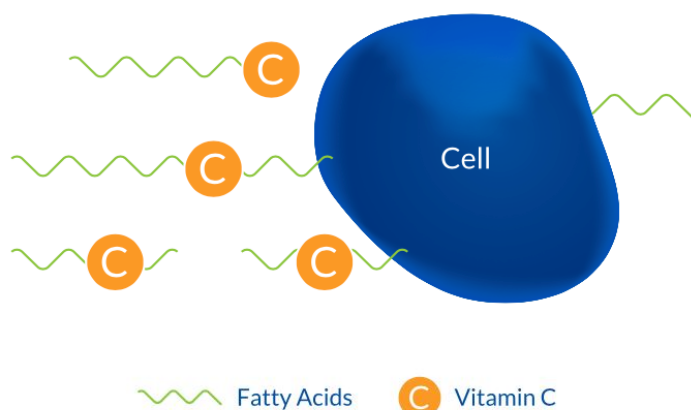
## PRODUCT PROFILE SHEET

### Understanding the Superiority of PureWay-C®

In published clinical trials<sup>1</sup>, PureWay-C® has demonstrated to be more effective than other forms of vitamin C in multiply key areas. That is because PureWay-C® is the only vitamin C ingredient made using a proprietary fatty acid formulation scientifically researched to increase absorption and retention.

### What makes PureWay-C® unique?

PureWay-C® is different than other forms of vitamin C because it includes naturally derived lipid metabolites and citrus bioflavonoids to enhance the uptake, distribution and release kinetics of ascorbic acid. The lipid metabolites are derived from safe plant sources, and mixed with ascorbic acid during the manufacturing process.



### How does PureWay-C® work in the body?

In PureWay-C®, fatty acids act as ascorbic acid carriers to increase intestinal absorption and vascular distribution of vitamin C and enhance cellular uptake kinetics which allows ascorbic acid to enter cells in a safe, quick and effective manner. Citrus bioflavonoids protect the vitamin C from oxidizers and contribute to the antioxidant capability of PureWay-C®.

#### Product Advantages

- ✓ **Scientifically Researched**  
Documented with research studies comparing it also with other vitamin C forms.
- ✓ **233% Higher Retention**  
By the human body than other ascorbate brands.
- ✓ **12% Higher Antioxidants**  
Delivered effectively when compared to other ascorbate brands.
- ✓ **12x More Efficient**  
At healthy neuron stimulation while promoting nerve reiteration.
- ✓ **40% Faster**  
Fibroblast wound healing.
- ✓ **High amount of Vitamin C**  
Minimum 90% vitamin C on product specification.
- ✓ **Exceptional Safety**  
GRAS-affirmed and stomach-friendly.
- ✓ **Good Stability Profile**  
Stable for 3 years. Used in liquid applications.
- ✓ **Multiple Applications**  
Granular, fine powder water dispersible for liquid applications.
- ✓ **Vegetarian & Vegan**
- ✓ **Allergen-Free**
- ✓ **Kosher & Halal Certified**

### Research

Research conducted at Adelphi University (New York), compared cellular uptake of several forms of vitamin C and found that two hours after treatment with the vitamin, human **T-lymphocyte treated with PureWay-C® contained higher vitamin C** level than any other treatment group evaluated (Figure 1).

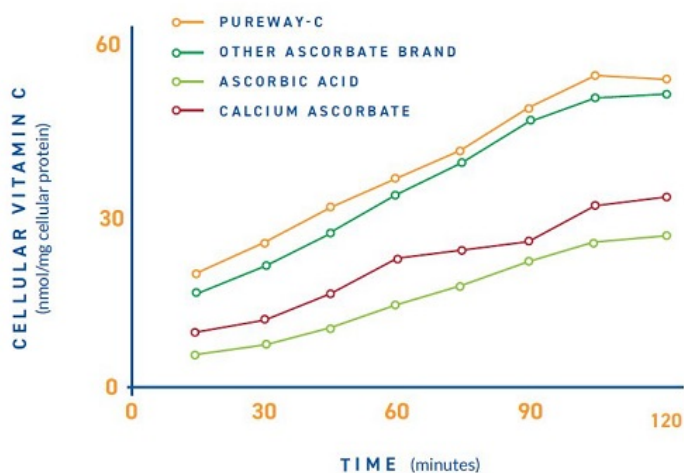
A study conducted by researchers from the University of Miami School of Medicine found that the average **serum vitamin C level was higher** in the group taking PureWay-C® for a 24 hour period following intake.



The study consisted of healthy volunteers who went on a two week long vitamin C-restricted diet and then received a single 1,000 mg supplement of vitamin C taking either PureWay-C<sup>®</sup> or one of several other vitamin C forms.<sup>2</sup>

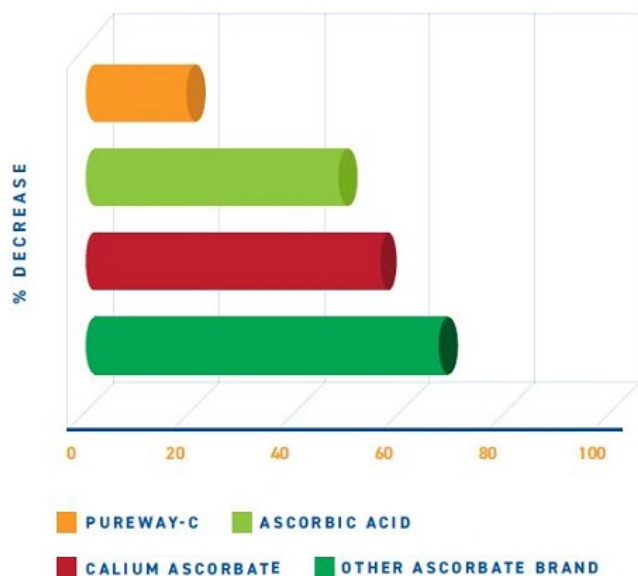
In Figure 2, PureWay-C<sup>®</sup> shows to decrease xenobiotic induced inflammatory mechanisms (2.5-fold more efficiently) than all forms of vitamin C tested for all time points.

Graphic 1

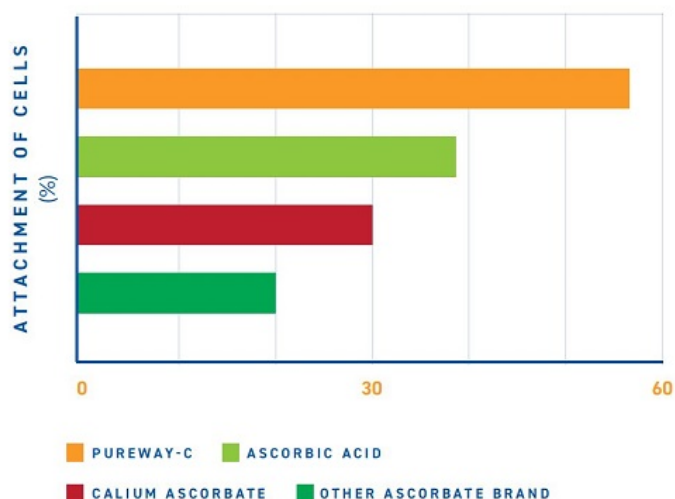
PureWay-C<sup>®</sup> Absorption and Retention

In the figure above PureWay-C<sup>®</sup> is more rapidly absorbed and more highly retained (233% higher) by the human body than all forms of vitamin C tested for all time points.

Graphic 2

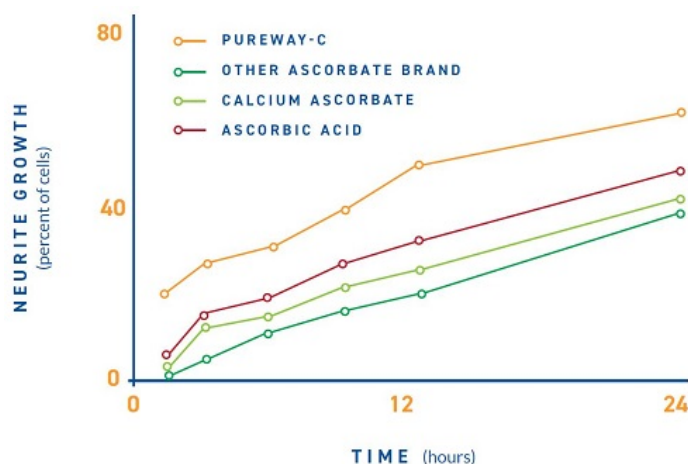
PureWay-C<sup>®</sup> Xenobiotic Induced inflammation

Graphic 3

PureWay-C<sup>®</sup> Fibroblast Wound Healing

In the figure above, PureWay-C<sup>®</sup> shows to promote a more rapidly promoted fibroblast wound healing (3-fold more efficiently) than all forms of vitamin C tested for all time points. In addition, figure 4 shows how PureWay-C<sup>®</sup> rapidly stimulated healthy neurons (12-fold more efficiently) and promoted nerve regeneration more efficiently than all forms of vitamin C tested for all time points.

Graphic 4

PureWay-C<sup>®</sup> Neurite Growth



The University of Miami School of Medicine researchers determined that the level of C-reactive protein (marker of systemic inflammation in the body) and oxidized low density lipoprotein (**LDL**) decreased when healthy volunteers took PureWay-C®. Researchers found that 24 hours after intake of PureWay-C®, **the serum level of C-reactive protein decreased 15.6% and oxidized LDL dropped 8.4%. Oxidized LDL is associated with increased cardiovascular risk**<sup>2</sup>.

In addition to this study, research on vitamin C shows benefits in reducing **inflammation** and **blood sugar levels** in obese adults with high **blood pressure** and or **diabetes**<sup>3</sup>. Also a meta-analysis showed a significant reduction in **LDL cholesterol** and **tryglicerides** and an increase in **HDL cholesterol** in hypercholesterolemic patients<sup>4</sup>.

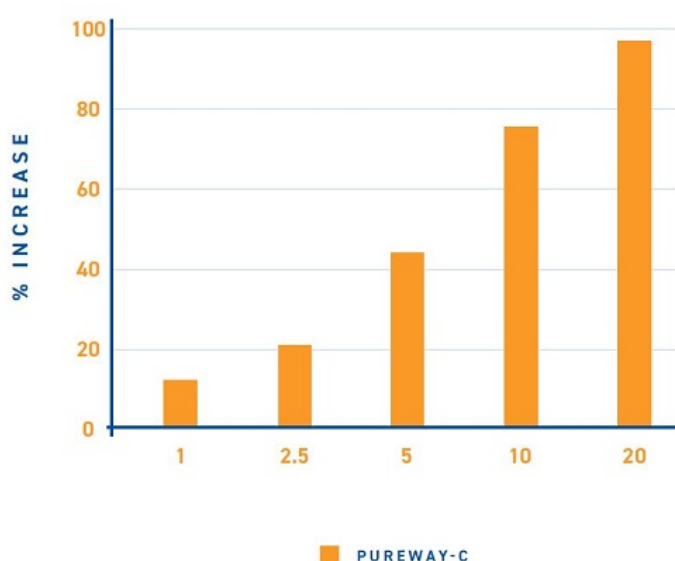
Furthermore, vitamin C may help lower blood pressure, especially with higher doses and longer use<sup>5</sup> and therefore **PureWay-C® may be an excellent option due to its high bioavailability and retention in the body.**

PureWay-C® has been found to outperform other vitamin C forms in metabolic functions where vitamin C is known to play a role, as well as in antioxidant activity. Adelphi University researchers found that in ex vivo studies, PureWay-C® **stimulates neurite outgrowth, improve fibroblast adhesion during wound healing, and protects the immune system from inflammation** substantially better than the other forms of vitamin C evaluated<sup>6</sup>.

Research indicates that PureWay-C® delivers effective antioxidant (12% higher) and free-radical scavenging activity (11% higher) using the (ORAC) and (DPPH) methods as shown in Figure 5.

Graphic 5

PureWay-C® Antioxidant Capacity



## Product Safety

**PurWay-C® is GRAS-affirmed.** PureWay-C® has not been associated with any of the adverse effects that may occur when taking high dosages of vitamin C. Stomach upset and any other adverse effects were not observed during the clinical studies with PureWay-C®.

Moreover, a survey was conducted and participants completed a symptom check-list. Neither, nausea, heartburn, epigastric pain, abdominal cramps, diarrhea, nor any other adverse symptoms were reported.

## Product Range

Ingredient	Vit C Content	Grade	Mesh Size
PureWay-C	90-95%	Granular	NLT 95% thru 16 mesh NMT 20% thru 80 mesh
PureWay-C	90-95%	Fine Powder	NLT 95% thru 40 mesh
PureWay-C	90-95%	Extra Fine Powder	NLT 95% thru 80 mesh
PureWay-C	90-95%	Water Dispersible (WD)	NLT 95% thru 80 mesh

## Product Applications

PureWay-C® is available in various grades, offering endless opportunities for traditional and innovative delivery forms: **gummies, liquids, powders, tablets, effervescent, chewable, capsules, softgels, functional foods and beverages.**

## Approved Health Claims

PureWay-C® benefits from the health claims, officially approved by the European Food Safety Authority (EFSA) for Vitamin C.

Vitamin C has a variety of EFSA claims including: contributing to the maintenance of the immune system, normal collagen formation for the proper function of blood vessels, bones, cartilage, gums, skin, and teeth, aiding normal energy-yielding metabolism, nervous system and psychological function, and helps protect cells from oxidative stress, reduces tiredness and fatigue, and increases iron absorption.

## About



One Innovation Labs is a global science-based company specialising in R&D and manufacturing of unique, safe and efficacious proprietary ingredients, among them PureWay-C®.



## References

1. *Perez PP: Absorption rates and free radical scavenging values of vitamin C-lipid metabolites in human lymphoblastic cells. Med Sci Monit, 2007.*
2. *Pancorbo et al. Vitamin C-lipid metabolites: Uptake and retention and effect on plasma C-reactive protein and oxidized LDL levels in healthy volunteers. Med Sci Monit, 2008.*
3. *Mohammed S Ellulu et al. (2015) Effect of vitamin C on inflammation and metabolic markers in hypertensive and/or diabetic obese adults: a randomized controlled trial. doi:10.2147/DDDT.S83144.*
4. *Marc P McRae. (2008) Vitamin C supplementation lowers serum low-density lipoprotein cholesterol and triglycerides: a meta-analysis of 13 randomized controlled trials. doi:10.1016/j.jcme.2008.01.002.*
5. *Yuan Yuan Guan et al. (2020) Effects of vitamin C supplementation on essential hypertension: A systematic review and meta-analysis. doi:10.1097/MD.00000000000019274.*
6. *Perez P: A novel vitamin C preparation enhances neurite formation and fibroblast adhesion and reduces xenobiotic-induced T-cell hyperactivation. Med Sci Monit, 2007.*