

Choosing the Best Immune-boosting Elderberry Ingredient

ElderMune® – An Innovative New Approach to Elderberry

Beyond traceability and purity – ElderMune® is Bursting with Benefits



An Exceptional Elderberry Ingredient

ElderMune® is a synergistic combination of elderberry juice concentrate combined with Sunfiber®, a soluble prebiotic fiber for enhanced digestibility.

ElderMune® boasts an impressive 65:1 ratio

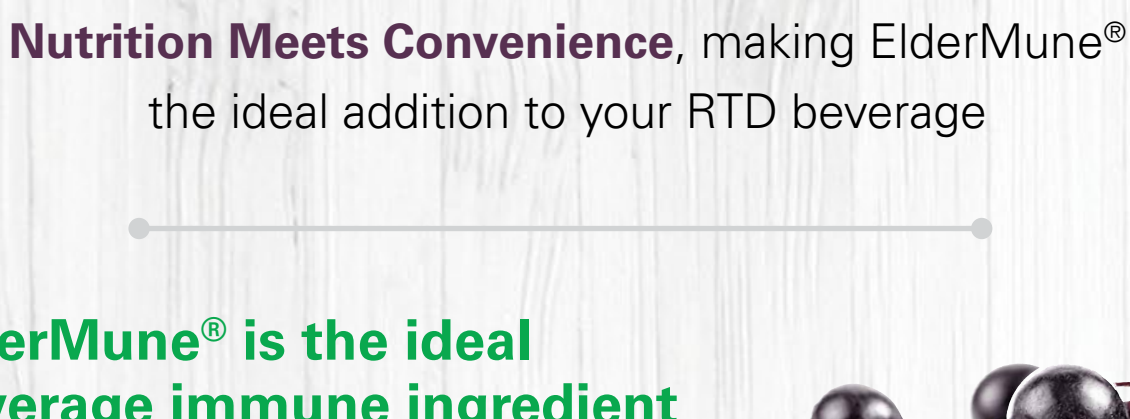
65 g of pressed elderberries → 1g of elderberry juice concentrate

The Sunfiber® in ElderMune®

- » Helps replace the natural elderberry fiber lost during juicing
- » Increases the antioxidant potential of the elderberry anthocyanins and polyphenols and helps with their absorption^{1,2}
- » Eliminates the need for unwanted maltodextrin found in most elderberry products

The Elderberry Category is Filled with Opportunity

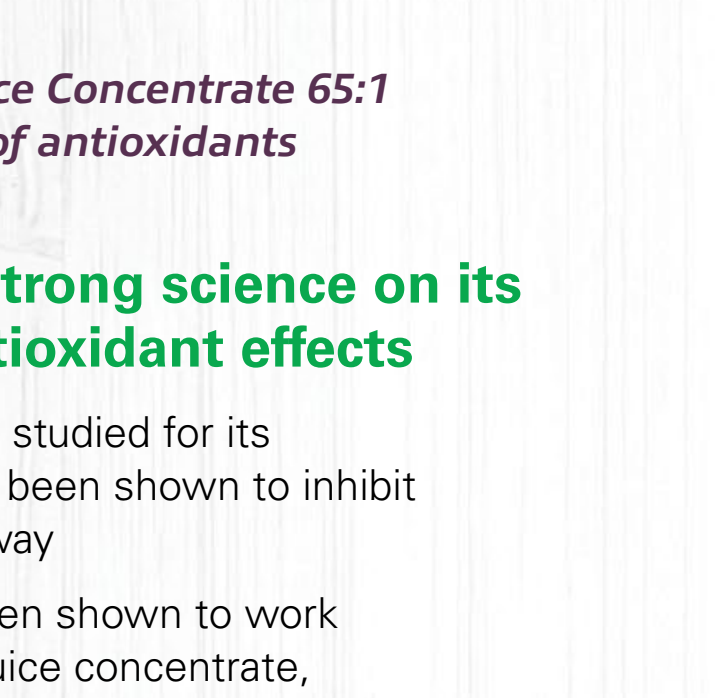
Functional Beverages in Demand



Over 21% of organic consumers are looking for **Nutrition Meets Convenience**, making ElderMune® the ideal addition to your RTD beverage

ElderMune® is the ideal beverage immune ingredient

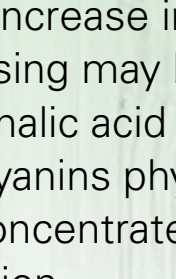
- » ElderMune® is a purple-red powder that has a natural berry taste
- » Highly soluble in water
- » The perfect immune-supporting and overall wellness ingredient



ElderMune® Elderberry Juice Concentrate 65:1 is an excellent source of antioxidants

Elderberry is supported by strong science on its immunomodulatory and antioxidant effects

- » ElderMune® specifically has been studied for its immunomodulatory effects and has been shown to inhibit cytokine production in a beneficial way
- » Additionally, the Sunfiber® has been shown to work synergistically with the elderberry juice concentrate, demonstrating increased immunomodulatory inhibition and increased antioxidant potential



For immune support, a dose between 100 mg and 1,000 mg is recommended

Case Study: HPP (High-Pressure Processing) Application

ElderMune® beverages with and without NuMalic® L-malic acid (for pH adjustment) were prepared and subjected to HPP. The following was observed:

- » The levels of anthocyanins increased after HPP
- » The levels of anthocyanins increased substantially with L-malic acid

Conclusions:

- » HPP is suitable for maintaining the anthocyanin content of the solution
- » The increase in anthocyanin content during processing may be due to both the high pressure and L-malic acid helping to release additional anthocyanins physically bound in the elderberry juice concentrate, thus increasing their availability in solution



This makes High Pressure Processing an excellent option for Beverages containing ElderMune®

Formulate with Ease

- ✓ **ElderMune® is highly soluble**
Various solubility parameters have been determined for RTD and powdered beverage applications
- ✓ **ElderMune® imparts a natural purple-reddish hue**
Suitable for natural coloring purposes
- ✓ **ElderMune® is highly palatable**
A light, natural berry taste makes it easy to incorporate into a wide array of applications and flavor systems
- ✓ And at a low functional dose of only 100 mg, **ElderMune® provides for an immune support claim at a low cost per dose**



ElderMune® contains a whole berry 65:1 juice concentrate, leading the way in delivering more fruit (equivalent) per gram than other elderberry ingredients.



65 grams of Elderberries → 1 gram of Elderberry Juice Concentrate

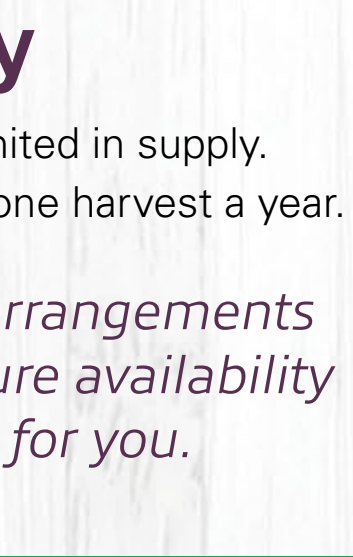
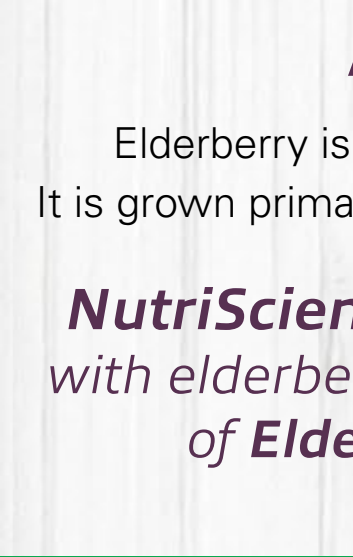
ElderMune® is a JUICE CONCENTRATE which contains more active phytonutrients than your typical concentrate

Abundant Advantages

Versatility

ElderMune® works well in:

Powders + Stick Packs + RTDs



Recommended dose: 100 - 1000 mg/serving
Can be combined with probiotics for total microbiome support

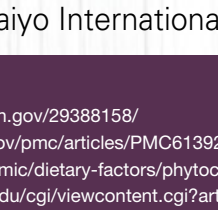
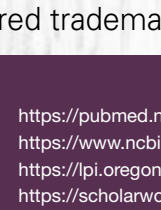
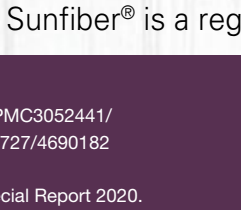
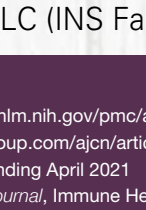
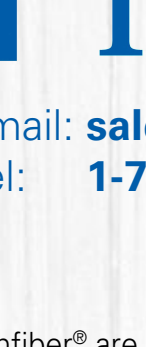
Availability

Elderberry is high in demand, but limited in supply. It is grown primarily in Europe with just one harvest a year.

NutriScience has exclusive arrangements with elderberry farmers to ensure availability of ElderMune® inventory for you.

Quality Assurance

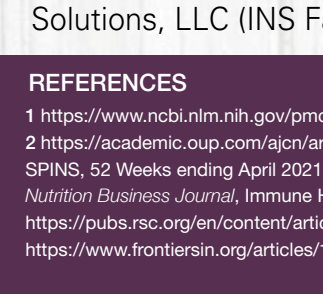
ElderMune® is made from quality Haschberg variety elderberries, obtained from reputable sources and is:



ElderMune® is free of:

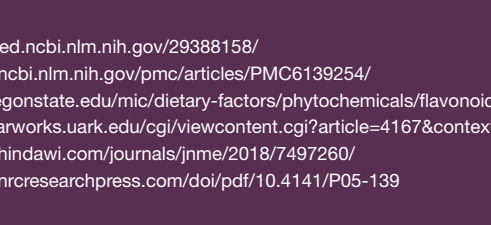


For more information on ElderMune® for Food & Beverage Applications contact:



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In partnership with:



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REFERENCES

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052441/>
 - <https://academic.oup.com/ajcn/article/79/5/727/4690182>
- SPINS, 52 Weeks ending April 2021
- Nutrition Business Journal*, Immune Health Special Report 2020.
- <https://pubs.rsc.org/en/content/articlelanding/2019/fo/c8fo1997e#divAbstract>
- <https://www.frontiersin.org/articles/10.3389/fnut.2018.00087/full>
- <https://pubmed.ncbi.nlm.nih.gov/29388158/>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6139254/>
- <https://pl.oregonstate.edu/mic/dietary-factors/phytochemicals/flavonoids>
- <https://scholarworks.uark.edu/cgi/viewcontent.cgi?article=4167&context=etd>
- <https://www.hindawi.com/journals/jnme/2018/7497260/>
- <https://www.nrcresearchpress.com/doi/pdf/10.4141/P05-139>