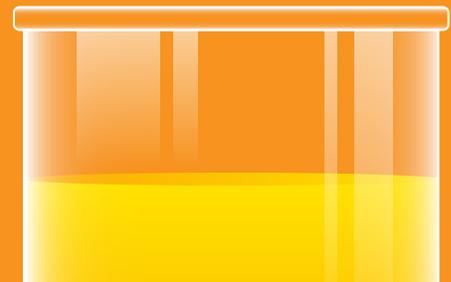




Curcumin 60%

Most Potent & Water Soluble



CUMINUP60

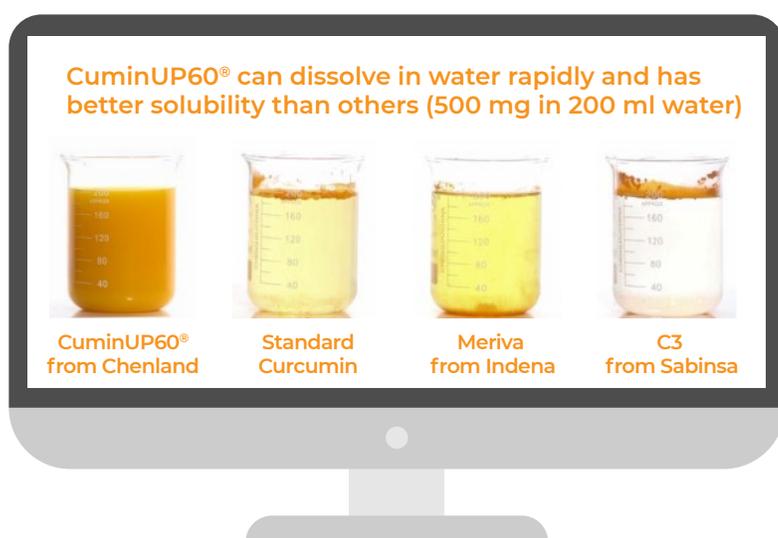
The 4th generation curcumin with high loading and the best bioavailability

CuminUP60® is made with high curcumin loading at 60%, while no solvent involved and curcumin crystal form changed. It is micron sized with uniform particle distribution and provides the cost-effective solution for all applications, maximum efficacy with small dosage.



1. CGSF Technology

Co-Grinding Solvent Free (CGSF) technology^[1] makes the insoluble curcumin wrapped in the hydrophobic core of excipient. The hydrophilic shell of excipient was compatible with water and assembled into a nano-micelle structure of “hydrophobic core-hydrophilic shell” in water, increasing the solubility of curcumin. It could quickly form a gel in vivo and stick to the action site, delay the release of curcumin, further increase the curcumin concentration in blood and bioavailability.



References:

1. Lu, Y., et al., Highly bioavailable curcumin preparation with a co-grinding and solvent-free process. Food Sci Nutr, 2020, 8(12): p. 6415-6425.

2. Why CuminUP60®

- Cost-effective, only 3 cents per day to meet health needs
- 60% curcumin potency
- High water dispersibility
- Clinically proven to increase bioavailability by 5x
- Patented process, with micron-sized particles
- Toxicity study to confirm the safety
- NDI & GRAS in process
- Stable in pH 2.4 and 7 water solution for 28 days
- Shelf-life 24 months

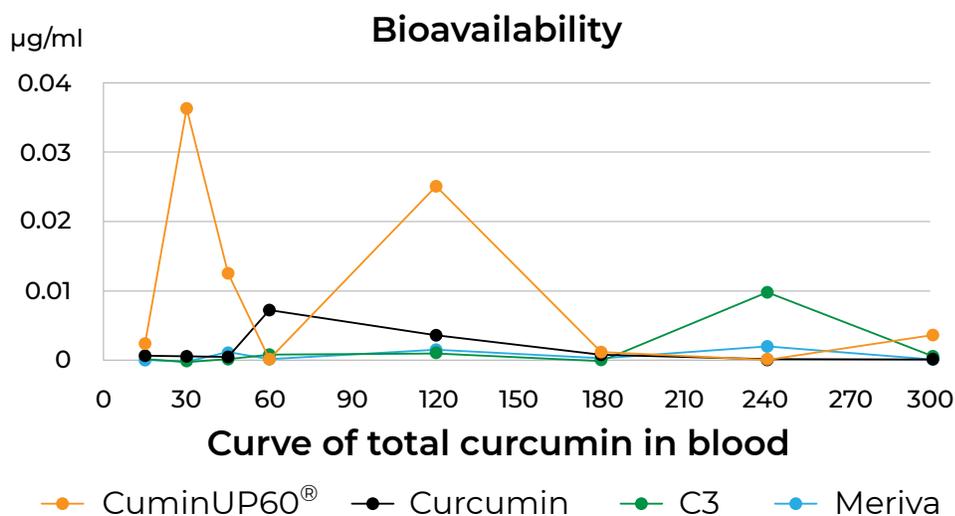


3. Pre-clinical Studies on:

a Pharmacokinetics:

The pharmacokinetic study showed CuminUP60® has a significant increase by 5x in relative bioavailability, compared to the regular curcumin and other brands on the market.

Significant increase in the concentration of total curcuminoids in serum from baseline to 30 mins and 120 mins after a single dose of CuminUP60®.



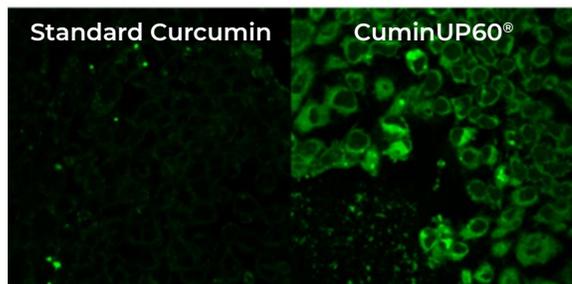
CuminUP60® comparison with other brands on the market

Items	CuminUP60®	C3®	Meriva®	Std 95% Curcumin
Recommended Dosage	200 mg	500 mg	500 mg	500 mg
Potency	60%	95%	20%	95%
Total Curcumin Content	120 mg	475 mg	100 mg	475 mg
Bioavailability Compared to Std 95% Curcumin	5x	1x	2x	1x
Curcumin Equivalent Based on Bioavailability	600 mg	475 mg	200 mg	475 mg
Material Equivalent Based on Bioavailability	200 mg	632 mg	1500 mg	632 mg

Longvida® was tested and had similar bioavailability to Meriva

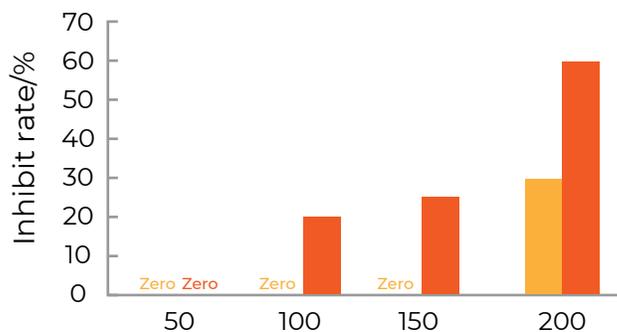
b Efficiency of absorption:

CuminUP60[®] enhanced cell intake of curcumin and decreased cell membrane fluidity explained why it works more efficient.



Cell intake of standard curcumin and CuminUP60[®]. Under the same fluorescence parameters, we observed the intensity of green fluorescence to reflect the uptake of curcumin by Caco-2 cells.

c Inhibition of breast cancer cells:

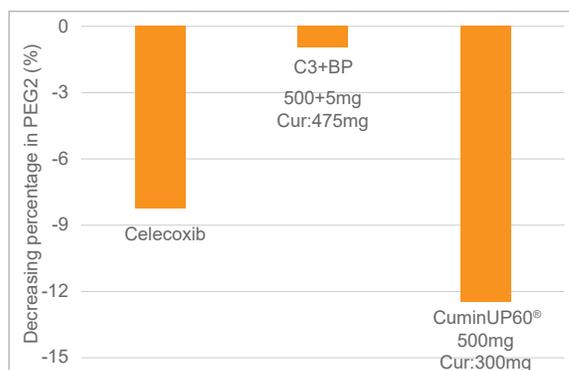


 Cuminup60[®]
 Standard Curcumin

Significant increase in the proliferation inhibition rate of cancer cells with the increased concentration of CuminUP60[®]

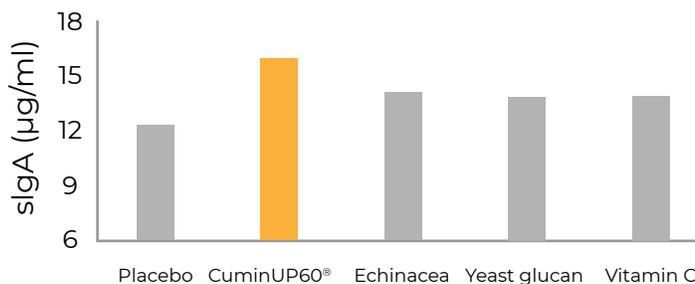
d Joint health:

Significant decrease the expression of inflammatory factors, such as PEG2, MMPs, COX-1, COX-2, PGE2, IL-6, superior C3 Complex[®]+1% piperine



e Immune health:

CuminUP60[®] increased the secretion of IgG, IgM and sIgA, superior to Echinacea extract, Yeast glucan and Vitamin C. It also inhibited the expression of proinflammatory factors, such as IL-6, IL-12, IL-1 β and IFN- γ .



4. Clinical Study on Oral Bioavailability in Progress

The study utilizes a single equivalent dose, randomized, double-blinded parallel design with crossover to evaluate the pharmacokinetics difference between CuminUP60® and standard 95% curcumin. We expect the completed date by the end of May 2021.

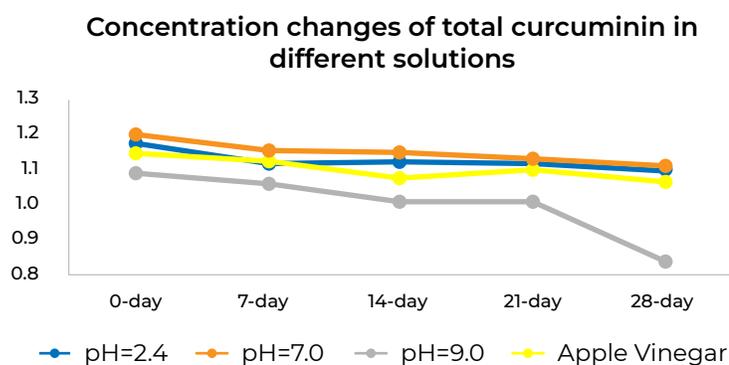
5. Dosage and Forms:

CuminUP60® can be used in capsule, tablet, beverage, gummy form, and more. It can be used alone, or formulated with other nutrients. Just 200 mg a day will give your health and wellness.

6. Stability Studies:

CuminUP60® can be used in capsule, tablet, beverage, gummy form, and more. It can be used alone, or formulated with other nutrients. Just 200 mg a day will give your health and wellness.

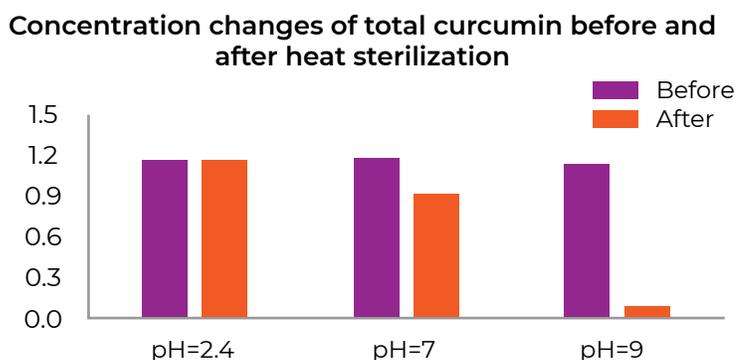
a In water solution with various pH values:



The data showed that CuminUP60® is stable at pH 2.4, 7.0 and vinegar. The concentration of total curcumin and solution color were not changed significantly during the study. However, there was a sharp decrease in the concentration of total curcumin and change in color of the solution over time at pH 9.

b In heat sterilization of the solutions:

The solutions were sterilized in 121 °C for 15 min.



The data showed that CuminUP60® was stable in the acidic solution while it degraded by 23% and 92% at pH 7 and 9, respectively.

