longvida®

CLINICAL SUMMARY

GLYPHOSATE RESIDUE FREE

NON GMO Project VERIFIED

ALKEMIST ASSURED

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

Please note that the physiological activity of the ingredient(s) described herein is supported by the referenced clinical trial report(s). Marketers of finished products containing the ingredient(s) described herein are responsible for determining whether claims made for such products are lawful and in compliance with the laws of the country in which they will market the products.

COGNITIVE & EYE HEALTH

DETAILS

Title: Feasibility study for detection of retinal amyloid in clinical trials: The anti-amyloid treatment in asymptomatic AD (A4) trial.

Design: small cross-sectional study

Dose: 20g Longvida® twice daily with an Ensure liquid nutritional shake (40g total of Longvida® per day)

Duration: 2-day loading period

Size: n=4

Reference: Ngolab J et al. Feasibility study for detection of retinal amyloid in clinical trials: The anti-amyloid treatment in asymptomatic AD (A4) trial. Alz Dement (Amsterdam, Netherlands). 2021. 13(1): e12199. doi: 10.1002/dad2.12199

SUMMARY

This pilot study evaluated the feasibility of using Longvida® curcumin–based retinal imaging to detect amyloid deposition in asymptomatic individuals at risk for Alzheimer's disease. Results showed that retinal amyloid spot counts were significantly higher in amyloid PET–positive participants, supporting the potential of retinal imaging as a non-invasive biomarker for early Alzheimer's pathology.

* Participants from the A4 trial (amyloid PET–positive) had significantly higher retinal amyloid spot counts than participants from the LEARN study (amyloid PET–negative), with a mean difference of 538 spots (95% CI: –979 to –97)
- The confidence interval for the group difference (–979 to –97) indicates that, with 95 percent confidence, the true difference in retinal spot counts lies within that range and does not include zero, suggesting a statistically significant effect. P values were not reported, likely due to the small sample size and exploratory nature of the study, with confidence intervals preferred to convey both the effect size and uncertainty. By contrast, if a confidence interval includes zero, such as –150 to +120, it means the true difference could be zero and the result would not be considered statistically significant.

Title: Sectoral segmentation of retinal amyloid imaging in subjects with cognitive decline.

Design: prospective cohort study

Dose: 20g Longvida® with 1 vitamin E softgel (400 IU) and an Ensure liquid nutritional shake per day

Duration: 4-day loading period

Size: n=34 patients with cognitive decline (18 female; 16 males ranging from 51-84 years old)

Reference: Dumitrascu, OM et al. Sectoral segmentation of retinal amyloid imaging in subjects with cognitive decline. Alz Dement: Diag Assess Dis Monit. 2020. 12(1): e12109. doi: 10.1002/dad2.12109

This study demonstrated that Longvida® curcumin enables non-invasive, quantitative retinal amyloid imaging in patients with cognitive decline. Retinal amyloid burden, particularly in the proximal mid-periphery, correlated with hippocampal atrophy and cognitive impairment, supporting its potential as an early Alzheimer's disease biomarker.

* Retinal amyloid count (RAC) significantly and inversely correlated with hippocampal volume ($r = -0.39$, $p = 0.04$)
* Proximal mid-periphery (PMP) RAC and retinal amyloid area (RA) were significantly greater in patients with mild cognitive impairment (MCI) ($p = 0.01$; Cohen's $d = 0.83$ and 0.81, respectively)
* PMP showed significantly more RAC and RA in subjects with amnestic MCI and Alzheimer's disease (AD) compared to cognitively normal individuals ($p = 0.04$; Cohen's $d = 0.83$)
* PMP RAC significantly and inversely correlated with hippocampal volume ($r = -0.41$, $p = 0.03$)
* PMP RAC significantly and positively correlated with Clinical Dementia Rating (CDR) score ($r = 0.37$, $p = 0.02$)
* Posterior pole (PP) RAC was significantly higher in MCI/AD patients compared to cognitively normal individuals ($p = 0.036$; Cohen's $d = 0.83$)

** Statistically Significant in Publication*

COGNITIVE & EYE HEALTH

DETAILS

Title: Further evidence of benefits to mood and working memory from lipidated curcumin [Longvida®] in healthy older people: A 12-week, double-blind, placebo-controlled, partial replication study.

Design: randomized, double-blind, placebo-controlled

Dose: 400mg/day Longvida or placebo

Duration: 4 weeks, 12 weeks

Size: n=80 healthy older adults (50-80 years)

Reference: Cox KHM et al. Further evidence of benefits to mood and working memory from lipidated curcumin [Longvida®] in healthy older people: A 12-week, double-blind, placebo-controlled, partial replication study. Nutrients. 2020 Jun 04. 12(6): 1678. doi: 13390/nu12061678

† *Poster references:*

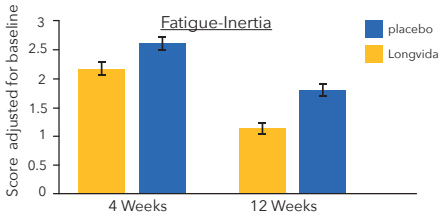
- *Scholey A et al. Curcumin improves hippocampal function in healthy older adults: A three month randomized controlled trial. Poster presentation in: 13th European Nutrition Conference - Malnutrition in an Obese World: European Perspectives (FENS). Dublin, Ireland. 2019: P3-01-02.*
- *Scholey A et al. A highly bioavailable curcumin extract improves neurocognitive function and mood in healthy older people: A 12-week randomized, double-blind, placebo-controlled trial (OR32-05-19). Current Dev Nut. 2019 Jun. Poster presentation. Vol3(Issue Suppl 1): nzz052.OR32-05-19. doi: 10.1093.cdn/nzz052.OR32-05-19*

SUMMARY

Researchers at Swinburne University showed significant improvements in measures of memory, attention, fatigue, stress, and mood (Cox KH et al, 2015). This was a follow-up to the results previously seen in 1 and 3 hours and in 4-weeks. The results of this second trial further confirm that a single daily dose of 400mg Longvida® improves aspects of mood and working memory in healthy older adults, with measures at 4 and 12 weeks.

Longvida® group showed:

* Significantly better working memory / attention performance at 12-weeks as measured by serial threes, serial sevens, and performance on virtual Morris Water Maze (spatial memory)
- Longvida was associated with better performance on pattern separation in healthy older adults
- Longvida® was associated with significantly lower fatigue at both 4 and 12-weeks as measured by Profile of Mood States (POMS)
* Significantly lower tension, anger, confusion, and total mood at 4-weeks
* Significantly increased spatial learning & memory 31% at 12-weeks compared to a 3% decrease with placebo (p=0.023); this is known to occur in the hippocampus



Subjects taking Longvida® demonstrated hippocampal activation which is known to promote mood and increase working memory†

% CHANGE FROM BASELINE

	LONGVIDA®		PLACEBO			
	4 weeks	12 weeks	4 weeks	12 weeks	p value	test
MEMORY & COGNITION						
working memory / sustained attention	6%	12%	-1%	1%	0.074 / 0.019	serial 3 subtraction
working memory / sustained attention	3%	19%	2%	1%	0.001	serial 7 subtraction
spatial memory & learning	18%	31%	4%	-3%	0.023	virtual morris water maze (vMWM)
MOOD						
fatigue-inertia	-19% *	-12% *	19%	27%	0.01 / 0.006	profile of mood states (POMS)
tension-anxiety	-16% *	-17% *	1%	-19%	0.006	profile of mood states (POMS)
confusion-bewilderment	-16% *	-16% *	6%	-2%	0.023	profile of mood states (POMS)
anger-hostility	-17% *	-36% *	12%	-34%	0.023	profile of mood states (POMS)

*note: decreases in POMS measures indicate improvements to measures of mood

COGNITIVE FACTS @ 400MG/Day

16% 16% reduction in tension-anxiety at 4 weeks with a sustained 17% reduction at 12 weeks in healthy adults†

31% 31% increase in spatial memory & learning, which is centred in the hippocampus (the first part of the brain impacted by cognitive decline)†

36% Longvida® reduced anger-hostility 17% at 4 weeks and 36% at 12 weeks supporting mental wellbeing & improved mood†

15% 15% average reduction in fatigue in healthy older adults suggesting significant improvements in overall mood†

25% 25% improvement in working memory compared to placebo in healthy adults taking 400mg/day†

** Statistically Significant in Publication*

COGNITIVE & EYE HEALTH

DETAILS

Title: Retinal amyloid pathology and proof-of-concept imaging trial in Alzheimer's disease.

Design: randomized, proof-of-concept, pilot study; preclinical analysis & clinical study published together

Dose: 4000mg/day Longvida or placebo

Duration: 2 or 10 days (study #3)

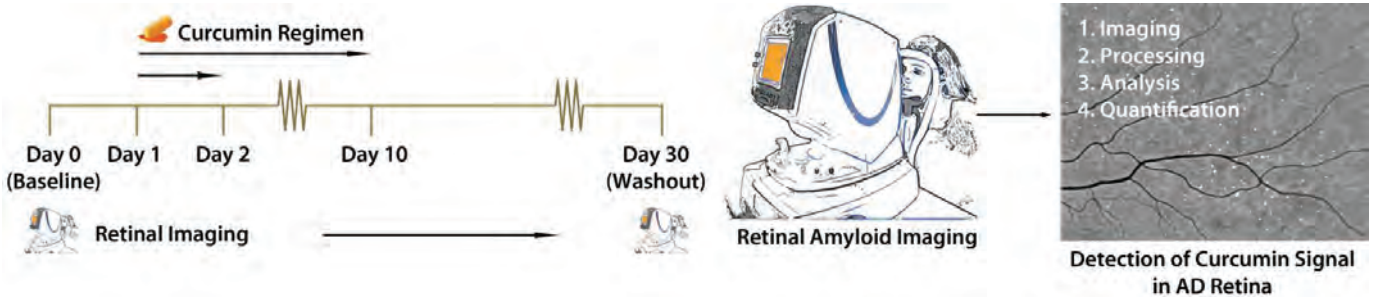
Size: study #2: n=23 clinically and neuropathologically confirmed AD patients (48-98 years); n=14 healthy controls (58-95 years) study #3: n=10 clinically and neuropathologically confirmed AD patients; n=6 healthy controls

Reference: Koronyo Y et al. Retinal amyloid pathology and proof-of-concept imaging trial in Alzheimer's disease. JCI Insight. 2017. 2(16): doi: 10.1172/jci.insight.93621

SUMMARY

A proof-of-concept retinal imaging trial showing increased fluorescent intensity in retinal amyloid deposits and the highest brain concentrations of free curcumin obtained with Longvida® Optimized Curcumin. This trial confirmed the ability of Longvida to deliver free curcumin to targeted tissues, more specifically the brain and retina, offering support for cognitive and complete neuronal health.

- Study #1 - Preclinical: Longvida was found to increase brain curcumin more effectively than several other curcumin products, increasing it ~10x more effectively than the next leading product and was therefore chosen as the curcumin to be used in the clinical trial to diagnostically determine RAI (Retinal Amyloid Index)
- Study #2 - Post-mortem Aβ analysis:
    - * Retinal Aβ (ie, RAI) did reflect brain Aβ burden, especially in primary visual cortex (Pearson's r = 0.84-0.91; p=0.0097 to 0.0018)
    - * AD subjects had 4.7-fold greater retinal Aβ42 plaques than matched healthy controls (p=0.0063)
    - * Greater neuronal loss was observed in AD subjects (as compared to matched controls; p=0.0023)
- Study #3 - RAI determination in humans using Longivda:
    - o Longvida® was effective at increasing retinal curcumin levels high enough to bind to and fluoresce Aβ plaques which were then detectable non-invasively and quantified as RAI
    - * RAI scores were significantly higher in AD pts vs controls; 2.6-fold higher in AD pts (vs unmatched controls; 78.9+7.2 vs 30.2+5.2; p<0.0005), 2.1-fold higher in AD pts (vs matched controls; 74.4+8.4 vs 32.5+5.6; p=0.0031)
    - * # of Aβ spots were also significantly higher in AD pts vs controls; 2.0-fold higher in AD pts (vs unmatched controls; 50.2+7.3 vs 24.8+6.2; p<0.05), 1.8-fold higher in AD pts (vs matched controls; 41.3+8.9 vs 22.6+7.1)
    - o RAI was successfully determined with just 2-10 d of Longvida® supplementation with RAI scores being found to be over 2x higher in AD subjects than healthy controls



** Statistically Significant in Publication*

COGNITIVE & EYE HEALTH

DETAILS

Title: The down syndrome biomarker initiative (DSBI) pilot: proof of concept for deep phenotyping of Alzheimer's disease biomarkers in down syndrome.

Design: 3-year longitudinal

Dose: 10g Longvida 2x daily

Duration: 2 days

Size: n=12 (30-60 years)

Reference: Rafii MS et al. 2015. The down syndrome biomarker initiative (DSBI) pilot: proof of concept for deep phenotyping of Alzheimer's disease biomarkers in down syndrome. Front Behav Neurosci. 2015 Sep 14. 9(239): 1-11. doi: 10.3389/fnbeh.2015.00239

SUMMARY

Retinal amyloid imaging demonstrated as a tool for detection of plaques in the brain. This study supports Longvida® quickly labeling retinal beta amyloid and inducing fluorescent plaque in the neural layers of the retina of humans.

- Imaged amyloid plaques in the retina of all subjects in this small cohort
- All subjects demonstrated amyloid positivity

Title: Retinal amyloid fluorescence imaging predicts cerebral amyloid burden and Alzheimer's disease.

Design: open trial

Dose: 20g Longvida

Duration: 7 days

Size: n=40

Reference: Frost S et al. Retinal amyloid fluorescence imaging predicts cerebral amyloid burden and Alzheimer's disease. Alz Dement. 2014 Jul. 10(4): P234-P235. Presented: Alzheimer's Association - AAIC 2014 in Copenhagen, Denmark.

Retinal Aβ plaques are similar to plaques in the brain. Longvida's ability to cross the BBB and its affinity for binding to amyloid beta have led to its use as a novel, more cost-effective alternative an imaging tool for screening through the eyes.

** Statistically Significant in Publication*

COGNITIVE & EYE HEALTH

DETAILS

Title: Investigation of the effects of solid lipid curcumin on cognition and mood in a healthy older population.

Design: double-blind, placebo controlled, parallel groups trial

Dose: 400mg/day Longvida or placebo

Duration: 4 weeks

Size: n=60 healthy adults (60-85 years)

Reference: Cox KH et al. Investigation of the effects of solid lipid curcumin on cognition and mood in a healthy older population. Centre for Human Psychopharmacology, Swinburne University. J Psychopharmacol. 2015 May. 29(5): 642-651. EPub 2014 Oct 02. doi: 10.1177/0269881114552744

COGNITIVE FACTS @ 400MG/Day

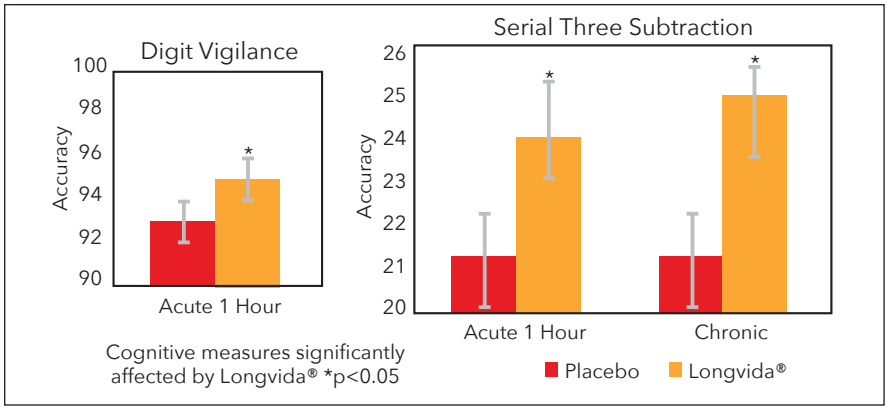
1 HOUR

Longvida® improved cognitive function & mood in healthy adults within as little as 1hr

SUMMARY

This landmark study is one of the first to show a curcumin supplement improves cognitive function in healthy subjects. The trial recruited 60 subjects aged 60-80, and found daily Longvida® (400mg) led to significant improvements in cognitive function versus the placebo group. Significant improvements were observed in measures for memory, attention, fatigue, stress and mood as soon as one hour after the first dose.

- Post 4wks - Decreased fatigue
  - * Overall - 11% ↓ vs 2% ↓ w/P (p=0.02)
  - * Physical fatigue - 11% ↓ vs 4% ↓ w/P; (p=0.008)
- Post 4wks/Post mental challenge/Pre-dose
  - * Decreased fatigue - 2% ↓ vs 17% ↑ w/P (p=0.04)
  - * Smaller reduction in calmness - 4% ↓ vs 15% ↓ w/P (p=0.022)
  - * Smaller reduction in contentedness - 2% ↓ vs 7% ↓ w/P (p=0.047)
- Post 4wks/Post-dose/Pre-mental challenge (ie, acute on chronic)
  - * Decreased fatigue - <1% ↓ vs 44% ↑ w/P (p=0.028)
  - * Increase in calmness - 5% ↑ vs 7% ↓ w/P (p=0.024)
  - * Increase in contentedness - 2% ↑ vs 2% ↓ w/P (p=0.023)
- Post 4wks/Post-dose/Post mental challenge (ie, acute on chronic)
  - * Greater alertness - 5% ↓ vs 9% ↓ w/P (p<0.05)
  - * Increase in contentedness - 1% ↓ vs 5% ↓ w/P (p<0.005)



Excellent safety was reported, including no dropouts or reports of gastrointestinal upset

** Statistically Significant in Publication*

COGNITIVE & EYE HEALTH

DETAILS

Title: Diverse effects of a low dose supplement of lipidated curcumin in healthy middle aged people.

Design: randomized, placebo controlled

Dose: 400mg/day Longvida or placebo

Duration: 4 weeks

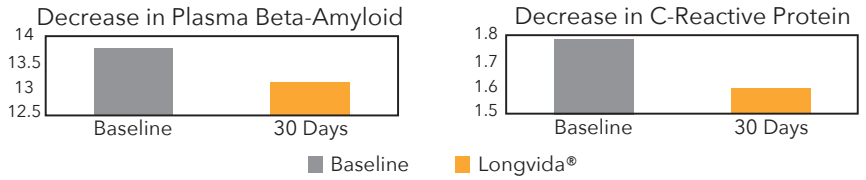
Size: n=38 (19/arm; 40-60 years, average age 47.5yrs)

Reference: DiSilvestro RA et al. Diverse effects of a low dose supplement of lipidated curcumin in healthy middle aged people. The Ohio State University. Nutr J. 2012. 11(1): 79. doi: 10.1186/1475-2891-11-79

SUMMARY

This study is believed to be the first curcumin trial in healthy people to show improvement in a number of key biomarkers related to healthy aging. Randomized, placebo-controlled study in 39 subjects showing excellent safety as well as significant improvements in markers supporting cognitive, cardiovascular, and anti-aging versus placebo.

* 75% increase in plasma catalase (no change in SOD)
* 40% increase in plasma nitric oxide (NO)
* 25% increase in antioxidant status in saliva
* 16% reduction in salivary amylase activity
* 10% reduction in plasma myeloperoxidase
* 9% reduction in plasma alanine aminotransferase (ALT)
* 8% reduction in plasma triglycerides (TG)
* 6% reduction in plasma sICAM
* 5% reduction in plasma β-amyloid protein



COGNITIVE FACTS @ 400MG/Day

75% 75% increase in plasma catalase supporting antioxidant activity against oxidative stress

** Statistically Significant in Publication*

HEALTHY AGING

DETAILS

Title: Curcumin supplementation and vascular and cognitive function in chronic kidney disease: A randomized controlled trial.

Design: randomized, double-blind, placebo-controlled, parallel-arm trial

Dose: 2000mg Longvida® or placebo once a day

Duration: 12 months

Size: n=88 adults with stage 3b or 4 CKD

Reference: Gimblet, CJ et al. Curcumin supplementation and vascular and cognitive function in chronic kidney disease: A randomized controlled trial. Antioxidants (Basel, Switzerland). 2024 Aug 14. 13(8): 983. doi: 10.3390/antiox13080983

SUMMARY

This randomized controlled trial evaluated the effects of 12-month supplementation with Longvida® curcumin (2000 mg/day) in patients with stage 3b or 4 chronic kidney disease. While Longvida]® did not improve vascular or cognitive function, it significantly reduced the inflammatory marker IL-6, suggesting potential anti-inflammatory benefits.

* Longvida® supplementation significantly reduced plasma interleukin-6 (IL-6) in comparison to the placebo group (p=0.04)

Table 3. Change in secondary outcomes according to group.

Variable	Curcumin	Placebo	Between-Group *p* Value
Nitroglycerin-mediated dilation, %	−1.33 ± 7.73	−1.25 ± 6.5	0.97
cfPWV, m/s	0.28 ± 2.4	0.36 ± 4.2	0.94
Processing speed	−0.87 ± 8.9	1.78 ± 7.0	0.16
Executive function	2.62 ± 9.0	2.25 ± 9.5	0.86
Memory	2.19 ± 9.2	2.62 ± 8.5	0.83
Language	−0.53 ± 5.8	−1.33 ± 4.5	0.51
IL-6, pg/mL	−0.56 (−4.1, 0.81)	1.2 (−1.1, 5.0)	0.04 *
oxLDL, ng/mL	−6.23 (−17.4, 6.69)	−21.5 (−51.0, 8.06)	0.20

Variables are presented as mean ± standard deviation or median (interquartile range). A two-sample *t*-test (normally distributed variables) and a Wilcoxon Rank-Sum test (non-normally distributed variables) were used to compare the change in outcome variables groups over time. cfPWV, carotid–femoral pulse wave velocity; IL-6, interleukin-6; oxLDL, oxidized low-density lipoprotein. * $p < 0.05$.

** Statistically Significant in Publication*

HEALTHY AGING

DETAILS

Title: Role of curcumin in reducing toxicities associated with mucosal injury following melphalan-based conditioning in autologous transplant setting.

Design: non-randomized, open label, single-center prospective clinical trial

Dose: treatment group: 4 chewable Longvida® lozenges (each lozenge containing 100mg of total curcuminoids) twice daily; control group: received normal supportive care including hexidine mouth wash and clotrimazole lozenges with no additional prophylactic strategies

Duration: 31 days of treatment & observation per patient

Size: n=40 patients

Reference: Punatar, S et al. Role of curcumin in reducing toxicities associated with mucosal injury following melphalan-based conditioning in autologous transplant setting. Cell Transplant. 2022 Apr 18. 31: 09636897221086969. doi: 10.1177/09636897221086969

SUMMARY

This study found that Longvida® curcumin significantly reduced chemotherapy-related toxicities, including vomiting and the need for parenteral nutrition, in patients undergoing high-dose melphalan conditioning for autologous stem cell transplant. These benefits were accompanied by a marked reduction in systemic IL-8 levels, suggesting an anti-inflammatory mechanism.

* There were significant improvements to symptom management in the Longvida® group compared to control, such as a significant reduction in vomiting (p= 0.01) and significantly less reliance on parenteral nutrition (IV delivered nutrients for patients with severe mucositis, nausea, vomiting, or diarrhea; p=0.026)
* The Longvida® group compared to control saw a 3.2-fold decrease in IL-8 using AUC (p=0.039) in the first 17 days
- The Longvida® group saw improvements to grade 3 & 4 mucositis and diarrhea

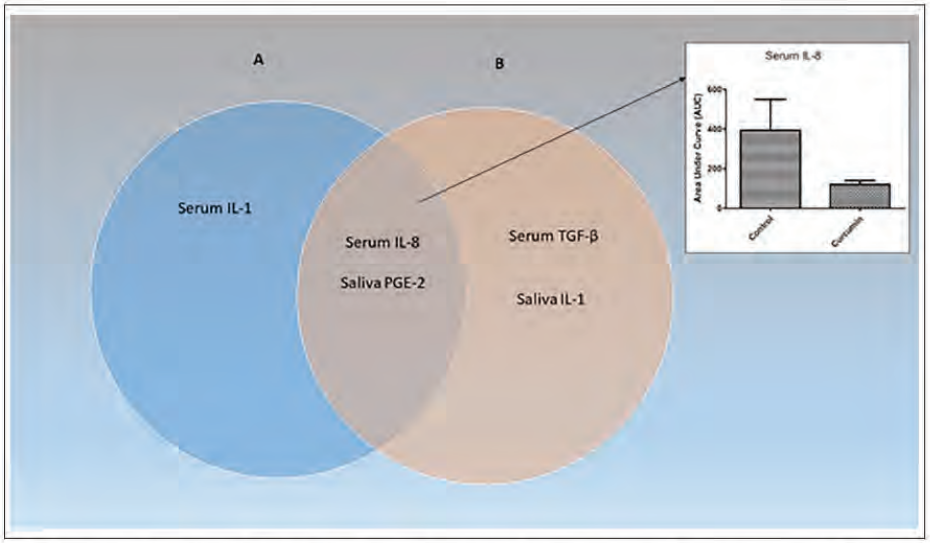


Figure 1. Venn Diagram: The Venn diagram enlists cytokines showing significant correlation with clinical outcomes in all patients (Circle A) and in the Curcumin group (Circle B). Cytokines common to both are listed at the intersection of the two circles. Out of these cytokines, only serum IL-8 showed significantly lower exposure in the Curcumin group compared with the Control group (Inset). IL-1: interleukin -1; IL-8: interleukin-8; PGE-2: prostaglandins; TGF-β: Transforming Growth Factor-β.

** Statistically Significant in Publication*

HEALTHY AGING

DETAILS

Title: Use of curcumin with tyrosine kinase inhibitors in EGFR-mutant non-small cell lung cancer: A Phase I prospective cohort trial.

Design: phase I prospective cohort trial

Dose: 1 capsule of 348mg turmeric extract 25:1 (containing 80mg Longvida® Optimized Curcumin®) in combination with EGFR-TKI therapy

Duration: 60 days

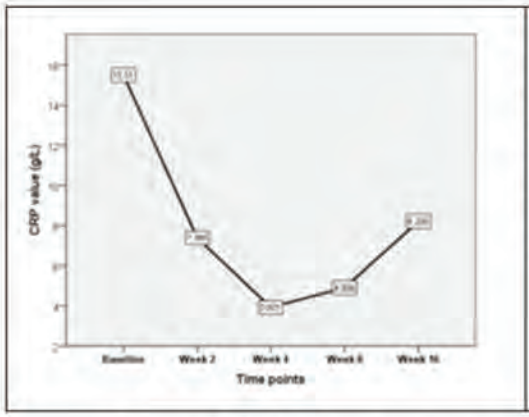
Size: n=19 enrolled with 16 completing the study

Reference: Kasymjanova, G. Use of curcumin with tyrosine kinase inhibitors in EGFR-mutant non-small cell lung cancer: A phase I prospective cohort trial. J Alter Complement Integrat Med. 2021. 7 (5): 1–8. doi:10.24966/acim-7562/100201

SUMMARY

This Phase I clinical study evaluated the safety and feasibility of combining Longvida® curcumin with EGFR-TKI therapy in patients with advanced EGFR-mutant NSCLC. The combination was well tolerated and resulted in significant reductions in CRP and improvements in quality of life, supporting the potential for future randomized trials.

* The curcumin/TKI combination led to significant reductions in the pro-inflammatory marker CRP within 2 weeks ($p<0.05$).
* Quality of life significantly improved across multiple domains, including lung cancer symptoms ($p=0.006$ at week 4), emotional well-being ($p=0.05$ at week 8), and the broader Trial Outcome Index ($p=0.011$ at week 4), with many patients achieving clinically meaningful gains.



Time	n	Mean	SD	P value
Baseline	20	15.50	40.86	.106
Week 2	20	7.38	13.79	.027
Week 4	19	3.92	4.53	.001
Week 8	18	4.91	6.64	.006
Week 16	16	8.21	16.79	.104

Figure 4: CRP changes during the curcumin treatment.

** Statistically Significant in Publication*

VASCULAR HEALTH

DETAILS

Title: Curcumin supplementation improves vascular endothelial function in healthy middle-aged and older adults by increasing nitric oxide bioavailability and reducing oxidative stress.

Design: randomized

Dose: 2000mg/day Longvida or placebo

Duration: 12 weeks

Size: n=39 (45-74 years)

Reference: Santos-Parker JR et al. Curcumin supplementation improves vascular endothelial function in healthy middle-aged and older adults by increasing nitric oxide bioavailability and reducing oxidative stress. Aging. 2017 Jan 3. Vol 9(No 1): 187-208.

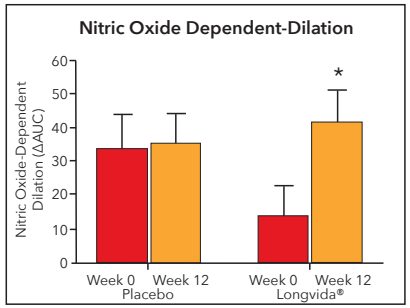
Poster references:

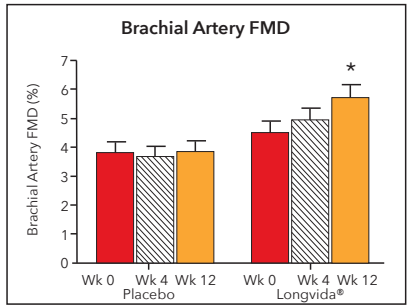
- *Santos-Parker JR et al. Curcumin supplementation improves vascular endothelial function in middle-aged and older adults. Geront. 2015 Dec. 55(Supple 2): 195. doi: 10.1093/geront/gnv554.01*

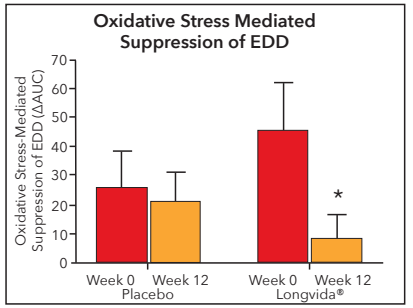
SUMMARY

Longvida® administered for 12 weeks increased brachial artery flow-mediation dilation (FMDba) by 36% and forearm blood flow in response to incremental brachial artery infusions of acetylcholine (FBFach) by 37% in middle-aged and older (MA/O) adults (45-74 yrs). Findings support supplementation with Longvida improves endothelial dependent dilation (EDD) in MA/O adults mediated, in part, by an increase in nitric oxide bioavailability.

* Longvida was shown to significantly increase circulation 36% as measured by flow-mediation dilation (FMDba)
* 37% increase in forearm blood flow in response to acetylcholine infusions (FBFach)
- Partially mediated nitric oxide (due to 34% reduction w/L-NMMA)







No severe or unexpected adverse events occurred and 2000mg/day Longvida® was well tolerated

** Statistically Significant in Publication*

SPORTS & JOINT ADAPTIVE HEALTH

DETAILS

Title: Evaluation of the efficacy and safety of capsule Longvida® Optimized Curcumin® (solid lipid curcumin particles) in knee osteoarthritis: a pilot clinical study.

Design: randomized, double blind, controlled clinical study

Dose: 400mg twice/day Longvida or standard drug Ibuprofen and placebo (400mg/ea once/day)

Duration: 3 months

Size: n=25 control group, n=17 study group (40-65 years)

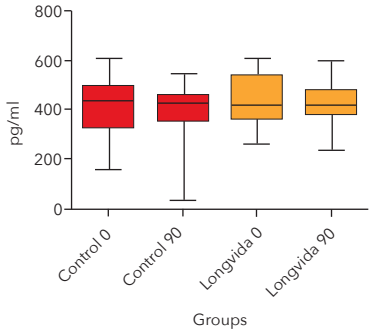
Reference: Gupte PA et al. Evaluation of the efficacy and safety of capsule Longvida® Optimized Curcumin® (solid lipid curcumin particles) in knee osteoarthritis: A pilot clinical study. J Inflamm Res. 2019.12: 145-152. doi: 10.2147/JIR.S205390

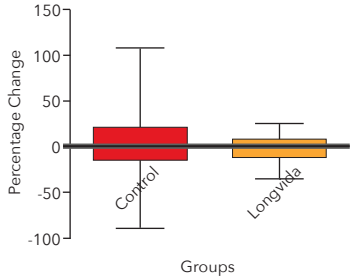
Longvida® (800mg/day) was found to be as effective as 400mg ibuprofen in reducing / alleviating joint pain

SUMMARY

A clinical study to evaluate the efficacy and safety of Longvida® Optimized Curcumin®, in patients with knee osteoarthritis (OA).

- SLCP in a dose of 800mg daily was found to be effective and safe in alleviating symptoms in patients suffering from knee osteoarthritis when administered for 90 days
- * Out of 50 recruitments, 25 from the Ibuprofen group and 17 from the SLCP group completed the study with significant improvements in VAS and WOMAC scores indicating comparable efficacy of SLCP in alleviating pain with Ibuprofen





There were no serious adverse events were reported in either group

** Statistically Significant in Publication*

SPORTS & JOINT ADAPTIVE HEALTH

DETAILS

Title: Reduced inflammatory and muscle damage biomarkers following oral supplementation with bioavailable curcumin.

Design: double blind, placebo controlled, parallel groups study

Dose: 400mg/day Longvida or placebo

Duration: 7 days

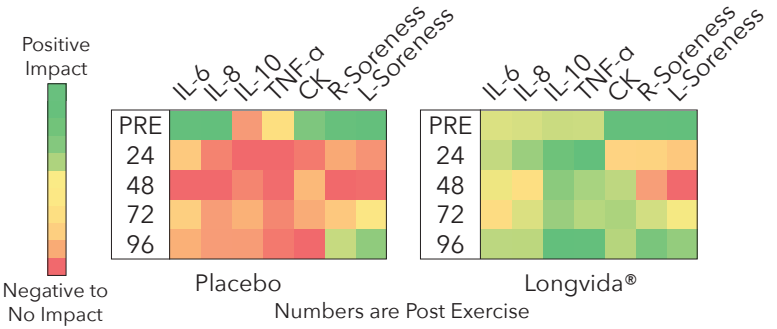
Size: n=28 (19-21 years; healthy college aged volunteers)

Reference: McFarlin BK et al. Reduced inflammatory and muscle damage biomarkers following oral supplementation with bioavailable curcumin. University of North Texas. BBA Clinical. 2016 Feb 18. 5: 72-78. doi: 10.1016/j.bbacli.2016.02.003

SUMMARY

Collectively, the findings demonstrated that consumption of Longvida® (400mg/day) reduced inflammation during recovery after EIMD. The observed improvements in biological inflammation may translate to faster recovery and improved functional capacity during subsequent exercise sessions.

* Longvida reduced elevated serum CK 65% (vs P; p=0.007)
* Longvida completely inhibited increases in serum IL-8 (↑ 20%; p=0.03)
* Longvida completely inhibited increases in serum TNF-α (↑ 20-25%; p=0.028)
• Longvida was very effective at blunting inflammation and reducing muscle damage



Subjects reported no adverse gastrointestinal effects and Longvida® was well tolerated

** Statistically Significant in Publication*

SPORTS & JOINT ADAPTIVE HEALTH

DETAILS

Title: Curcumin supplementation alters inflammatory cytokines following exercise.

Design: placebo controlled parallel group pilot study

Dose: one of 200mg/day, 400mg/day, 800mg/day, 1000mg/day Longvida or placebo

Duration: 7 days

Size: n=24 (healthy college aged volunteers)

Reference: McFarlin BK et al. Curcumin supplementation alters inflammatory cytokines following exercise. Poster presentation. Med Sci Sport Exerc. 2019. 51: 90

Poster references:

- *McFarlin BK, Tanner EA, Asher GN, Davis AA. Dose-dependent effectiveness of optimized curcumin supplementation to alter inflammation following exertion-induced skeletal muscle injury. 2019. Poster presentation in: Autumn Immunol Conf. Chicago, IL, USA.*
- *Tanner EA et al. High-dose, short-term Longvida® Optimized Curcumin® supplementation is associated with improved inflammatory response to eccentric muscle injury. 2018 Nov. Poster presentation in AHPA Botanical Congress 2018 in Las Vegas, NV, USA.*

SUMMARY

The study evaluated different doses and their impact post-exercise recovery and inflammation through perceived muscle soreness, inflammatory biomarkers, and muscle injury. 400mg and 1000mg/day doses were associated with a reduction in inflammatory signals and creatine kinase. Researchers indicated that the 1000mg/day dose was most effective at reducing subjective soreness and whole-body inflammation.

** Statistically Significant in Publication*

INFLAMMATORY ORAL HEALTH

DETAILS

Title: Efficacy of curcumin in the treatment for oral submucous fibrosis - A randomized clinical trial.

Design: randomized, placebo controlled, parallel groups, clinical trial

Dose: 400mg Longvida lozenges for a total daily dose of 2g or Tenovate ointment (clobetasol propionate (0.05%))

Duration: 3 months treatment + 6 months follow up

Size: n=30 (18-50 years) clinically diagnosed patients with OSF

Reference: Hazarey VK et al. Efficacy of curcumin in the treatment for oral submucous fibrosis - A randomized clinical trial. J Oral Maxillofac Pathol. 2015.19(2): 145-152. doi: 10.4103/0973-029X.164524

SUMMARY

A randomized, controlled clinical trial in 30 clinically diagnosed patients with (OSF) concluded that Longvida® lozenges could be effective combination strategies for the management of OSF in comparison to single therapeutic modality. In this study 15 OSF patients in each group (test & control) were treated with either Longvida® lozenges (400 mg lozenges for total daily dose of 2g) or Tenovate ointment (clobetasol propionate (0.05%). The treatment was given for 3 months duration and follow-up was done for 6 months.

- To evaluate the safety of the medicines and the efficacy in the form of pre and postoperative difference in the interincisal distance, difference in the VAS score for normal and spicy food
* The Longvida group showed 5.93 (±2.37) mm increase in mouth opening compared to 2.66 (±1.76) mm of the control group
* VAS scale with spicy and normal food the average reduction was 64 (42–73) and 77 (70.5–82) as compared to 34 (14.5–64.5) and 64 (46–75.5) respectively in control group
* The Longvida groups' results achieved in the treatment span was sustained in the follow-up ($p<0.05$) compared to the control group which showed statistically significant ($p<0.05$) relapse

Longvida® curcumin lozenges were well tolerated by all participants

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Title: Curcumin decreases cytokine levels involved in mucositis in autologous transplant setting: A pharmacokinetic-pharmacodynamic study.

Design: single center, pilot pharmacokinetic and pharmacodynamic study

Dose: Patients in the treatment-phase received chewable curcumin lozenges 4g/day from 2 days prior to the start of melphalan (200 mg/m2) till day 28

Duration: 28 days

Size: n=10 patients without use of oral curcumin followed by treatment-phase where next 10 patients received curcumin lozenges

Reference: Khattry et al. Curcumin decreases cytokine levels involved in mucositis in autologous transplant setting: A pharmacokinetic pharmacodynamic study. American Society of Hematology. Atlanta, GA. 2012 Dec 8. Presentation.

The absorption and efficacy of Longvida in lozenge form in a common oral inflammatory and fibrotic condition was tested compared to the standard of care (clobetasol steroid ointment). Subjects taking Longvida® observed improvements in endpoints significantly better than those receiving steroid treatment, and therapeutic plasma levels were detected through buccal absorption.

- Out of 19 evaluable patients (control group -10, curcumin group - 9), Six (60%) patients in control group had grade 3 or 4 OM while 3 (33%) in curcumin group with median duration of 5.5 days vs 3 days respectively; Seven (70%) patients in control group had grade 3 or 4 diarrhea compared to 3 (33%) in curcumin group with median duration of 2 vs 8 days respectively
* Curcumin significantly altered the serum and salivary profiles of some cytokines involved in mucositis
- Higher exposure to curcumin was found to reduce the duration of severe mucositis

** Statistically Significant in Publication*

ADJUNCT / COMBINATION

DETAILS

Title: Effects of intensive lifestyle changes on the progression of mild cognitive impairment or early dementia due to AD: A randomized, controlled clinical trial.

Design: 1:1 multi-center randomized, controlled trial (blinding subjects in a lifestyle intervention is not feasible)

Dose: 4 capsules/day (1680mg omega-3; 800mg Longvida®), 1 tablet/day multi-vitamin, 2 softgels/day containing 200mg CoQ10, 1 tablet/day containing 1g vitamin C, 2 tablets/day containing144mg magnesium L-threonate, 2g/day lion's mane, 1 tablet/day probiotic

Duration: 20 weeks

Size: n=51 patients with MCI or early dementia (intervention: 26 patients; usual care control: 25 patients)

Reference: Ornish, D et al. Effects of intensive lifestyle changes on the progression of mild cognitive impairment or early dementia due to AD: A randomized, controlled clinical trial. Alz Res Therapy. 2024 Jun 07. 16(1): 122. doi: 10.1186/s13195-024-01482-z.

SUMMARY

This randomized controlled trial found that a 20-week intensive lifestyle intervention, including diet, exercise, stress management, and social support, significantly improved cognition, function, biomarkers, and microbiome composition in patients with mild cognitive impairment or early Alzheimer's disease. The intervention included a daily supplement regimen with multiple ingredients, one of which was Longvida® curcumin, and was associated with a significant increase in the plasma Aβ42/40 ratio, suggesting potential reduction in brain amyloid burden.

- This study indicates that comprehensive lifestyle changes may significantly improve cognition and function after 20 weeks in many patients with mild cognitive impairment (MCI) or early dementia due to Alzheimer's disease (AD)
* After 20 weeks, there were statistically significant differences between the intervention group and the control group in the Clinical Global Impression of Change (CGIC) (p= 0.001), Clinical Dementia Rating–Sum of Boxes (CDR-SB) (p= 0.032), and Clinical Dementia Rating Global (CDR Global) (p= 0.037) tests. The Alzheimer's Disease Assessment Scale (ADAS-Cog) test showed borderline significance (p= 0.053)
* Other clinically relevant biomarkers also showed statistically significant differences in a beneficial direction in the intervention group compared to the control group, including insulin (p=0.048), glycoprotein acetyls (GlycA; p=0.005), LDL-cholesterol (p<0.001), and β-Hydroxybutyrate (ketone bodies; p=0.021)
* The plasma Aβ42/40 ratio increased in the intervention group and decreased in the control group (p = 0.003). This increase in the intervention group is suggested to potentially reflect amyloid moving from the brain to the plasma, similar to observations in a lecanemab drug trial† where plasma levels of the Aβ42/40 biomarker increased in the intervention group over 18 months. This study found similar results in the direction of change in the plasma A 42/40 ratio from this lifestyle intervention but in only 20 weeks. Conversely, this biomarker decreased in the control group (as in the lecanemab trial), which may indicate increased cerebral uptake of amyloid
* There was a significant and beneficial change in the microbiome configuration in the intervention group but not in the control group (p<0.0001)

† Dyck, CH. van et al. Lecanemab in early AD. New England J Med. 2023 Jan 05. 388(1): 9-21. doi: 10.1056/NEJMoa2212948.

Table 4 Cognition and function data with sensitivity analysis (with outlier excluded):

	0-week		20-week		Change over 20 weeks		
Cognitive test	**Control**	**Intervention**	**Control**	**Intervention**	**Control**	**Intervention**	***p-value***
ADAS-cog	21.25	21.62	22.16	20.03	0.91	-1.59	0.028
CDR-SB	3.34	3.22	3.86	3.33	0.52	0.11	0.046
CDR-Global	0.66	0.67	0.74	0.63	0.08	-0.04	0.037
CGI-dx							
2 - Borderline Ill	5	8					
3 - Mildly Ill	11	8					
4 - Moderately Ill	7	3					
5 - Markedly Ill	1	4					
6 - Severely Ill	1	0					
CGI-c							0.001
3 - Minimal Improvement			0	10			
4 - Unchanged			8	6			
5 - Minimal Worsening			14	7			
6 - Moderate Worsening			3	0			

** Statistically Significant in Publication*

ADJUNCT / COMBINATION

DETAILS

Title: A phase I open prospective cohort trial of curcumin plus tyrosine kinase inhibitors for EGFR-mutant advanced non-small cell lung.

Design: open-label, prospective cohort study

Dose: 400mg Longvida in conjunction with EGFR-TKI treatment prescribed by a healthcare provider

Duration: 8 weeks

Size: n=55 (patients with advanced NSCLC)

Reference: Esfahani K et al. A phase I open prospective cohort trial of curcumin plus tyrosine kinase inhibitors for EGFR-mutant advanced non-small cell lung. J Clin Oncol. 2019. 37(15_suppl): e20611-e20611. doi: 10.1200/JCO.2019.37.15_suppl.e20611

SUMMARY

This study further provides evidence that short-term use of Longvda® curcumin in patients is feasible and safe. Researchers report high treatment adherence and improved quality of life with curcumin. These findings, as well as efficacy data and the effect of curcumin on other inflammation-associated biomarkers, warrant investigation in a larger phase 2 study.

- Longvida Optimized Curcumin® improved quality of life measures and patients showed high treatment adherence
- Longvida® in conjunction with EGFR-TKI treatment was safe and efficacious
- Additionally, adverse events reported were known to be preexisting from TKI treatment, further indicating Longvida® is safe and efficacious

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Title: Effects of solid, lipid curcumin particles on alcohol metabolism – An exploratory and a randomized, double-blind, placebo-controlled, parallel-group crossover study.

Design: randomized, double-blind, placebo-controlled, parallel-group crossover study

Dose: 6 capsules (each capsule containing 100mg Longvida, 250mg safflower oil, and 100mg vitamin C) or placebo (250mg safflower oil and 100mg vitamin C) in combination with 150mL whiskey with water (amount of alcohol loaded was 0.5mL alcohol/kg bw)

Duration: single dose followed by 6 day washout period

Size: n=15 (healthy adult Japanese males)

Reference: Machida N et al. Effects of solid, lipid curcumin particles on alcohol metabolism – An exploratory and a randomized, double-blind, placebo-controlled, parallel-group crossover study. Jpn Pharmacol Ther. 2020 Apr. 48(5): 867-873.

This study further provides evidence that Longvda® curcumin is safe and efficacious. Researchers report reduced side effects typically associated with alcohol consumption and suggest that Longvida® may offer liver health support through the acceleration of ethanol and acetaldehyde metabolism.

* When given 30min prior to ingesting 150mL whiskey (ie, 0.5mL alcohol/kg bw), Longvida® significantly decreased blood acetaldehyde levels (180min after alcohol loading), suggesting that Longvida supplementation should be approx. 30min prior to alcohol consumption
* Blood acetaldehyde levels in the Longvida® group 180 min after alcohol loading were significantly lower (p=0.024) than that in the placebo group

** Statistically Significant in Publication*

ADJUNCT / COMBINATION

DETAILS

Title: Effects of fish oil and curcumin supplementation on cerebrovascular function in older adults: a randomized controlled trial.

Design: randomized, double-blind, placebo controlled, 2x2 factorial dietary intervention trial

Dose: 6 capsules daily (two fish oil and one curcumin or matching placebo twice/day; fish oil contained 400mg EPA and 2000mg DHA, Longvida at 800mg)

Duration: 16-weeks

Size: n=152 (older, sedentary overweight / obese adults; 50-80yrs; body mass index 25-40kg/m2;)

Reference: Kuszewski JC et al. Effects of fish oil and curcumin supplementation on cerebrovascular function in older adults: a randomized controlled trial. Nutr Metab Cardiovasc Dis. 2019.

SUMMARY

* The addition of Longvida® tended to decrease sedentary behavior 11.3hrs/wk (an 8% reduction from baseline) although it did significantly reduce sedentary behavior (sedentary lifestyle = <150 min pf planned exercise a week) during the week compared to Longvida® only ($p<0.05$)
* The combination of fish oil and curcumin significantly increased HDL cholesterol ($p=0.001$) and attenuated a reduction in triglycerides (TG), which is intriguing since triglycerides and HDLs are typically inversely related
    - o The fish oil group produced a 22% reduction in triglycerides but no change in HDL
    - o Approx. 9% reduction in triglycerides in Longvida group and 22% reduction in fish oil + Longvida group compared to baseline
- Approx. 6% reduction in Framingham CVD risk score in Longvida® group and 11% reduction in the fish oil + Longvida® group compared to baseline
- Overall, the addition of Longvida® to fish oil showed no contraindications, and that Longvida taken with fish oil does not appear to hinder the ability of Longvida® to offer tangible health benefits

There were no serious adverse events

** Statistically Significant in Publication*

ADJUNCT / COMBINATION

DETAILS

Title: Effects of composite supplement containing curcumin, ferulic acid, and soybean-derived phosphatidylserine on cognitive function in healthy middle-aged and senior adults – A randomized, double-blind, placebo-controlled, parallel-group study.

Design: randomized, double-blind, placebo-controlled, parallel group study

Dose: 200mg Longvida®, 200mg ferulic acid and 25mg soybean derived phosphatidylserine (PS) or placebo

Duration: 20-weeks

Size: 38=n (healthy Japanese participants with memory complaints; 50-69 yrs)

Reference: Kawamoto K et al. Effects of composite supplement containing curcumin, ferulic acid, and soybean-derived phosphatidylserine on cognitive function in healthy middle-aged and senior adults – A randomized, double-blind, placebo-controlled, parallel-group study. Japanese Pharmacol Ther. 2019. 47: 1253-68.

SUMMARY

- Overall improvement in cognitive function, including memory, attention, and judgment in healthy middle-aged and senior adults
* Significant improvement of memory and attention was found in the active group compared to the placebo group after 20-weeks
* In the subgroup analysis with lower cognitive function (≤25 MoCA-J scores), significant improvements were noted in the Verbal Paired Associates test score at 20-weeks, both hands test of Purdue Pegboard at 12-weeks, and step 1 and 2 subtests of the Stroop Color and Word Test at 12-weeks in the Longvida® (combination) group in comparison to the placebo group

No side effects induced by the composite supplement (as a combination) were observed during the study

** Statistically Significant in Publication*

ABSORPTION

DETAILS

Title: Safety and pharmacokinetics of a solid lipid curcumin particle formulation in and healthy volunteers.

Design: single-dose, crossover, double-blind, comparative pharmacokinetic study

Dose: 650mg Longvida or 95% curcuminoids extract

Size: n=6 (men, 18-40 years)

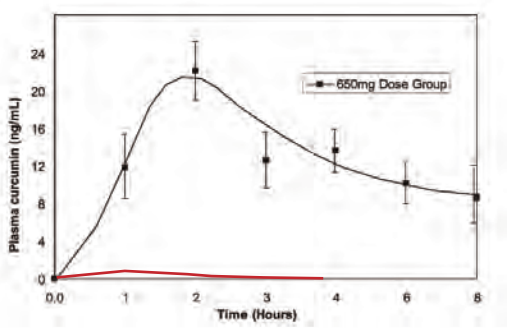
Reference: Gota VS et al. Safety and pharmacokinetics of a solid lipid curcumin particle formulation in osteosarcoma patients and healthy volunteers. Tata Memorial Cancer Centre. J Agric Food Chem. 2010. 58(4): 2095-2099.

SUMMARY

Human bioavailability study demonstrating significantly greater plasma levels of free (unconjugated) curcumin after a single dose of Longvida in both healthy and disease states with 65x greater Cmax and >100x greater AUC than 95% curcuminoids.

- Longvida® Optimized Curcumin® delivers unglucuronidated free curcumin to target tissues.
- Longvida® is 67-285 times more bioavailable than standard 95% curcumin depending on Cmax, AUC and AUC Normalized calculations.
- Additionally, Longvida® offers a longer half-life than standard curcumin at approximately 7.5 hours versus one hour, respectively; offering extended release

Comparison of free curcumin in bioavailability studies



Longvida® (black line) is over 65 times more bioavailable than 95% curcuminoids (red line). (Gota et al 2010)

Title: Acute human pharmacokinetics of a lipid-dissolved turmeric extract.

Design: randomized

Dose: 200mg/day Longvida or placebo

Reference: Shah et al. Acute human pharmacokinetics of a lipid-dissolved turmeric extract. Planta Med. 2012. 78-PH5.

This study concluded that a dose as low as 200mg Longvida® reaches blood levels of free curcumin required for healthy brain aging. Analyzed blood samples with and without the use of glucuronidase enzyme, finding very little of the glucuronidated form compared to previous studies on curcumin.

** Statistically Significant in Publication*