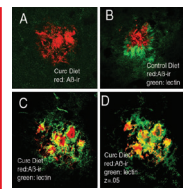


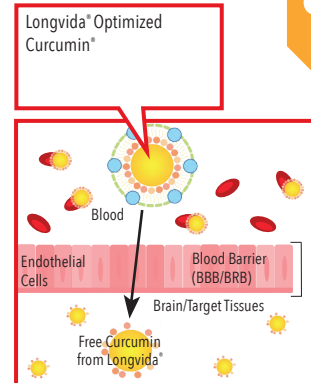
1996 to 2004



UCLA researchers examine curcumin applications in cognitive health and applied Lipinski's 5 rules.

2007

Verdure Sciences® licenses and begins to commercialize Longvida® Optimized Curcumin®.



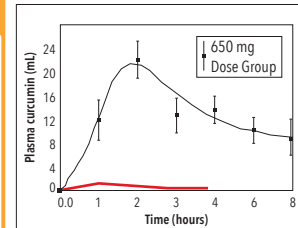
2006

UCLA/VA researchers file patent.

2010

JANUARY

- Longvida® pharmacokinetics (pK) study shows that Longvida® is 65-285x more bioavailable than standard 95% curcumin depending on Cmax, AUC, and AUC dose normalized calculations.⁴



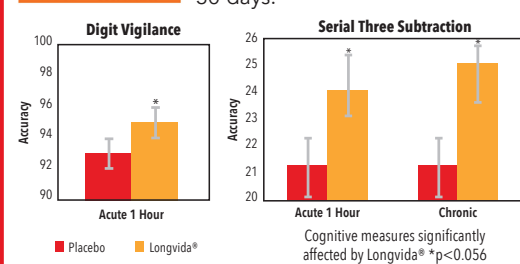
Longvida (black line) is 65 times more bioavailable than 95% curcuminoids (red line)

- UCLA combines research with NeuroVision to show Longvida's ability to reach the brain via retinal imaging. Dr. Black explained the significance of the imaging by stating, "the eye is the window to the brain."

2014

JULY

- Retinal imaging poster presented at Alzheimer's Association International Conference (AAIC) 2014 in Copenhagen, Denmark; further backs BBB penetration capability of Longvida.⁸



OCTOBER

- Longvida® (400 mg/day) improves measures of cognitive function and mood in healthy older adults, with improvements seen in as little as 1 hour & significant benefits after 30-days.⁹
- Classical view of BBB transport¹⁰ further supports Lipinski's rules for BBB transport & Longvida's ability to cross the BBB.

2015

A clinical trial using Longvida® lozenges further legitimizes its oral health applications.¹¹

2017

JANUARY

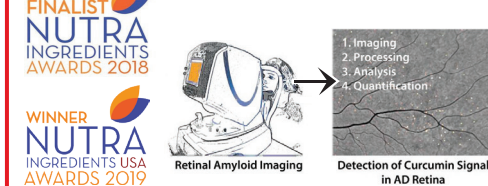
- University of Colorado-Boulder shows Longvida® improves vascular endothelial function in middle-aged and older adults.¹⁵

APRIL

- Longvida® shows greater permeability, decreased reactive oxygen species (ROS), and mitigated apoptotic (cell) death.¹⁶

AUGUST

- Ground breaking proof-of-concept imaging trial offers noninvasive, cost effective, and quantitative tool to facilitate identification of at-risk populations for AD well before the onset of symptoms.¹⁷



DECEMBER

- Longvida® obtains Non-GMO Project Verified status.

DECEMBER

- Longvida® SD fed to horses reduced pain, improved lameness, and maintained stomach health.*

2020

- Longvida® attenuates inflammatory pathology and ameliorates neurodegeneration and motor deficits in GFAP-IL6 mice.²⁷

- Longvida® Optimized Curcumin® significantly decreases blood acetaldehyde levels.²⁸

- A clinical trial (16 weeks) in overweight adult patients shows potential effects on mood and quality of life with Longvida® (800 mg/day) in conjunction with fish oil.²⁹

JUNE

- A second, replicative study at Swinburne University enforces Longvida's (400 mg/day) potential to improve performance in working memory after 12 weeks, as well as reduced fatigue scores using the Profile of Mood States (POMS) at both 4 and 12 weeks.³⁰

2021

WINNER NUTRA INGREDIENTS USA AWARDS 2021

Longvida® is a finalist for cognitive function ingredient of the year.

2022

Longvida® achieved plasma concentrations and may improve weight bearing in some horses; further supporting companion/performance animal applications.³¹

2024

A publication showed positive benefits in cognitive parameters with Longvida® and yoga supporting peilotropic activity and multiple cognitive health parameters for healthy aging subjects with mild cognitive impairment.³³

2008

- Longvida® provides greater anti-amyloid, anti-inflammatory, and neuroprotective effects than unformulated curcumin.¹

- UCLA researchers establish free curcumin analytical methodology and track blood and brain levels of curcumin and its metabolites.

APRIL

- Longvida® is shown to cross the blood brain barrier (BBB) & reach target tissues.²

2011

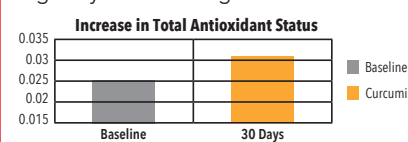
Chronic & sub-acute chronic safety study.⁵

AUGUST

- Longvida® is self affirmed GRAS (Generally Recognized As Safe).

SEPTEMBER

- Researchers at The Ohio State University (OSU) show improvements in a number of key biomarkers for healthy aging, cognitive health, and cardiovascular health with a single 400 mg daily dose of Longvida®.⁶



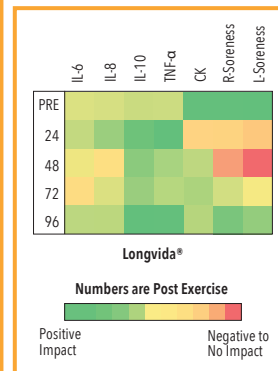
2012

DECEMBER

- A placebo controlled clinical examined absorption and efficacy of Longvida® lozenges; supporting functional diversity in applications.⁷

2016

FEBRUARY



MARCH

- Clinical study at the University of North Texas shows that Longvida® (400mg/day) improves exercise induced muscle damage in college-aged adults; exercise recovery.¹²

AUGUST

- Dr. Greg Cole, UCLA, & Dr. Scholey, Swinburne University, present Longvida® at first American Chemical Society (ACS) Neuro-Bioactives Session.

SEPTEMBER

- Longvida® is shown to utilize lymphatic transport.¹³
- University of Rhode Island researchers develop Neuroprotective Potential Algorithm (NPA) in which Longvida ranks in the top 5 for potential cognitive health benefits.¹⁴

2018

NIH funded trials favor healthy aging with Longvida®.^{18,19,20,21}

2019

JUNE

- Presented as a poster, a second study at Swinburne University shows long-term effects similar to previous study. Positive results in mood & working memory in healthy older adults.^{23, 24}

AUGUST

- Longvida® is efficacious and faster-acting when compared to IBU in a knee study.²⁵

- Clinical adjunct study in middle-aged and senior adults (20 weeks) displays improvements in cognitive function, including memory, attention and judgement.²⁶

FEBRUARY

- Longvida® and Pomella® studied in combination, as Restoridyn®, showing synergistic benefits in support of sports nutrition; first of its kind combination study; evaluation of RNA biomarkers takes a deep dive into how Longvida® works.²²

JUNE

- Longvida® is Certified Glyphosate Residue Free by The Detox Project.

JUNE

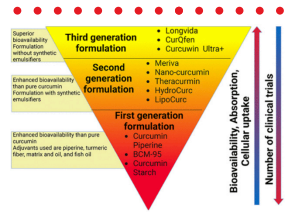
- NutraIngredients awards Verdure Sciences® research of the year for Longvida's retinal imaging study.

2023

- Longvida® classified as a third generation curcumin formulation for its superior bioavailability.³²



- Longvida® obtains Alkemist Assured™.





the optimized **curcumin**® timeline citations

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- * Unpublished report found at: <https://absorbine.com/clinical-research/bute-less-performance-supplement/>



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