PROTOCOL FOR LIFE BALANCE®

Dietary Supplement Information
for Physicians with Naturokinetics®
PRODUCT CODE: P2395
CATEGORY: COGNITIVE SUPPORT*

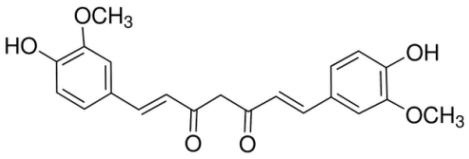
Cogumin SLCP™

Longvida® Optimized Curcumin 400 mg

TECHNICAL SUMMARY

Cogumin SLCP™ (Solid Lipid Curcumin Particle) contains patented Longvida® Optimized curcumin. It is called SLCP™ because the curcumin-containing lipid particles remain solid at body temperature. Administration of Longvida® results in circulating free, unmetabolized curcumin capable of crossing the blood-brain barrier.

Structure Formula:



Chemical Name: Curcumin: Diferuloylmethane [1,7-*bis*(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione]

Allergen and Additive Disclosure: Contains soy. Not manufactured with yeast, wheat, gluten, milk, egg, fish, shellfish or tree nut ingredients. Produced in a GMP facility that processes other ingredients containing these allergens.

Delivery Form: Veg Capsules

ROLE AS NUTRIENT/FUNCTION

Curcumin is found in rhizomes of turmeric (*Curcuma longa*). It is widely used as a spice, food coloring, yellow dye, and has been used by traditional herbalists for centuries. Curcumin is known for its numerous molecular targets; for example it directly modulates the activity of major enzymes involved in immune system responses to normal biological stress.* Curcumin is a potent free radical scavenger and it enhances the synthesis of glutathione.* Preliminary laboratory studies suggest that curcumin may help to promote normal cell cycle regulation and help to maintain healthy brain function.*

NATUROKINETICS®

Liberation: Cogumin SLCP™ Veg Capsules pass standard disintegration test in water (< 60 minutes).

Absorption: In a pharmacokinetic clinical trial with 6 adult volunteers, a single oral administration of 650 mg Longvida® SLCP (minimum 130 mg curcumin) resulted in circulating free, unmetabolized curcumin plasma levels with T_{max} of 2.4 hours, while administration of 650 mg turmeric extract standardized by 95% curcuminoids (minimum 390 mg curcumin) resulted in undetectable levels of free curcumin (Figure 1).

Distribution: Once in the bloodstream, curcumin binds with serum albumin and is transported to target tissues (in descending order): intestine, spleen, liver, kidneys. Free, but not conjugated, curcumin has been shown to cross the blood-brain barrier, specifically in the form of solid lipid particles.

Metabolism: Unlike regular turmeric extracts, SLCP™ Longvida® prevents absorbed curcumin from excessive metabolism, which is typically accomplished by glucuronidation, and to a lesser extent, sulfation.

Elimination: In healthy adult volunteers, the half-life ($t_{1/2}$) for free curcumin following administration of 650 mg Longvida® (minimum 130 mg curcumin) was 7.5 hours. Glucuronidated and sulfated conjugates have a shorter half-life and are eliminated quickly via bile and urine.

Supplement Facts

Serving Size 1 Veg Capsule

Amount Per Serving

Longvida® Optimized Curcumin Extract [from *Curcuma longa* (Turmeric) Root] (Rhizome) (min. 20% Curcuminoids)	400 mg**

** Daily Value not established.

Other ingredients: Hypromellose (cellulose capsule), Magnesium Stearate (vegetable source), Silicon Dioxide, Rice Flour and Stearic Acid (vegetable source).
Contains soy.

- **Cognitive Support***
- **Circulating Free Curcumin**

SUGGESTED USAGE: Take 1 capsule daily, or as directed by your healthcare practitioner.

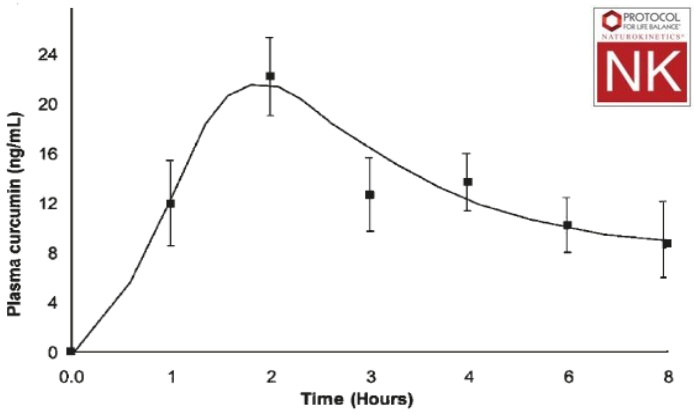


Figure 1: Mean free plasma curcumin concentration-time profiles of healthy human subjects (n = 6) after administration of 650 mg of Longvida® SLCP.

CLINICAL VALIDATION

- In a randomized, double-blind, placebo-controlled clinical trial with 38 healthy middle-aged volunteers (40–60 years old), supplementation with Longvida® (80 mg curcumin/day for 4 weeks) resulted in statistically significant reduction of plasma β-amyloid

*These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.

LONGVIDA® extract is patented under US 9192644 & EP 1993365 (other patents pending) and LONGVIDA® is a registered trademark of Verdure Sciences Inc.
SLCP™ is a trademark of Verdure Sciences Inc.

protein level ($p<0.05$ from baseline), while no statistically significant changes were found in the placebo group (Figure 2). Additionally, Longvida® curcumin, but not placebo, produced a statistically significant decrease in plasma triglycerides and increases in salivary radical scavenging capacity, plasma nitric oxide and catalase activity.

- In a randomized, double-blind, placebo-controlled, parallel group clinical trial with 60 healthy adult volunteers (60-84 years old), supplementation with Longvida® (400 mg/day for 30 days) resulted in significant improvement in working memory and attention ($p<0.05$), mental energy ($p<0.01$), alertness ($p<0.05$), calmness ($p<0.05$) and contentedness ($p<0.05$) as compared to placebo, using Computerized Mental Performance Assessment System (COMPASS).

SAFETY INFORMATION

Tolerability: Curcumin in food is typically well tolerated and it is estimated that a typical Indian diet provides 80-200 mg curcumin per day. Supplementation with 400 mg Longvida® turmeric extract containing 80 mg curcumin/day for 4 weeks was well tolerated.

Contraindications: None known.

INTERACTIONS

Drug Interactions: Curcumin may interact with aspirin, clopidogrel (Plavix®), dalteparin (Fragmin®), enoxaparin (Lovenox®), heparin, ticlopidine (Ticlid®), and warfarin (Coumadin®).

Supplement Interactions: Concomitant use of turmeric with herbs that might affect platelet function could theoretically increase the risk of bleeding in some people. These herbs include angelica, clove, danshen, garlic, ginger, ginkgo, *Panax ginseng*, red clover, willow, and others.

Interaction with Lab Tests: None known.

STORAGE

Store in a cool, dry and dark environment in original sealed container. Protect from extended exposure to moisture, heat and direct light.

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