



# CurcumRx<sup>™</sup>

Highly Bioavailable Natural  
Turmeric Complex



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# Introducing CurcumRx™



- A completely unique composition and delivery form
- This unique, standardized composition has been clinically demonstrated to safely deliver **5-6x greater bioavailability** versus the leading enhanced absorption turmeric ingredients.



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# Introducing CurcumRx™

A first of its kind **natural turmeric complex** providing an unprecedented range of naturally occurring, highly beneficial turmeric root nutrients.

## REDEFINING TURMERIC ROOT NUTRITION

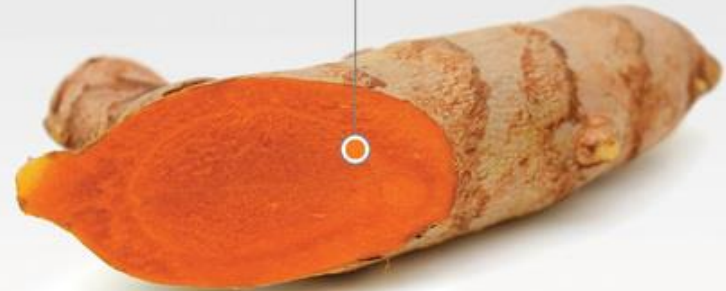
45-50% CURCUMINOIDS **PLUS**

POLYSACCHARIDE

TURMERIN PROTEIN

TURMERONE OIL

DIETARY FIBER



The CurcumRx™ Turmeric Complex delivers complete, 100% turmeric root-derived nutrition **PLUS** unprecedented bioavailability.



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# Highlights of CurcumRx™

- ✓ A nutrient dense complex delivering approx. **50% curcuminoid content PLUS** other naturally-occurring compounds – protein, polysaccharides and fiber
- ✓ Superior absorption versus standard curcumin products
- ✓ **5-6x greater bioavailability versus the enhanced absorption market leaders**
- ✓ CurcumRx™'s processing technology results in a dual phase molecule for superior absorption in human digestive tract and blood plasma



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# A Unique Composition

1-4% protein (as Turmerin)

45-50% curcuminoids

5-10% polysaccharide



4-8% dietary fiber

3-8% volatile oil  
(mainly turmerone)

proprietary and confidential 4

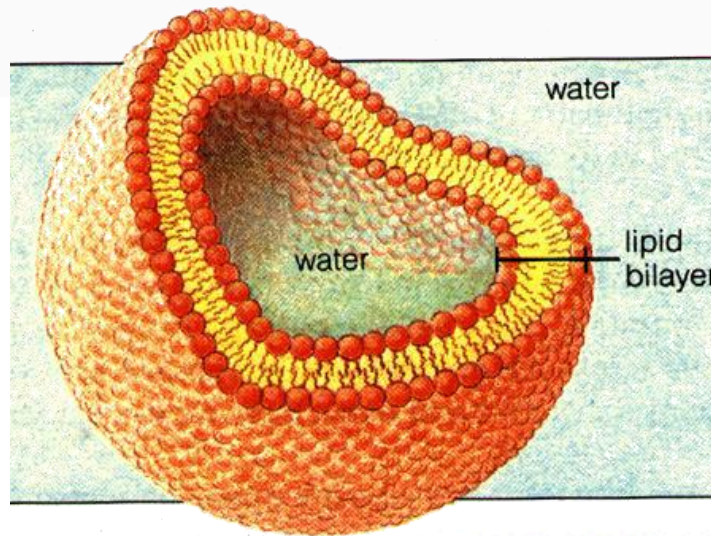


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# The CurcumRx™ Process

- A unique multi-stage process that preserves the natural matrix of Turmeric - high curcumin, essential oils and hydrosolublenutrients (peptides, fiber, etc.)
- This Polar/Non polar soup is then blended to create a unique dual phase molecule that easily passes through the lipid membrane
- Once through, the polar/non polar matrix offers superior absorption properties through blood plasma



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# Human Clinical Test Results

## *Test vs. enhanced bioavailability leaders*

Healthy Study on Assessment of comparative single-dose oral bioavailability CurcumRx™ (500 mg) vs Curcumin with Turmeric Oil (500 mg) capsule and Curcumin with Phospholipid (500 mg) capsule in 45 healthy human adult male volunteers under fasting condition

- **Primary objective:** To evaluate the single-dose oral bioavailability of CurcumRx™ (500 mg) against 2 of the high bioavailability curcumin market leaders (500 mg each) in healthy human adult male subjects under fasting conditions.
- **Secondary objective:** The secondary objective was to monitor the safety and tolerability of a single oral dose of CurcumRx™ (500 mg) when administered in healthy human adult male subjects under fasting conditions.

## Conclusion of Human Clinical Test

- In Test vs. Enhanced Bioavailability Leaders:
  - CurcumRx™ is **6x** superior to Curcumin with oil with respect to extent of absorption and 3x with respect to rate of absorption
  - CurcumRx™ is **5x** superior to Curcumin with phospholipid with respect to extent of absorption and 2.5x with respect to rate of absorption.

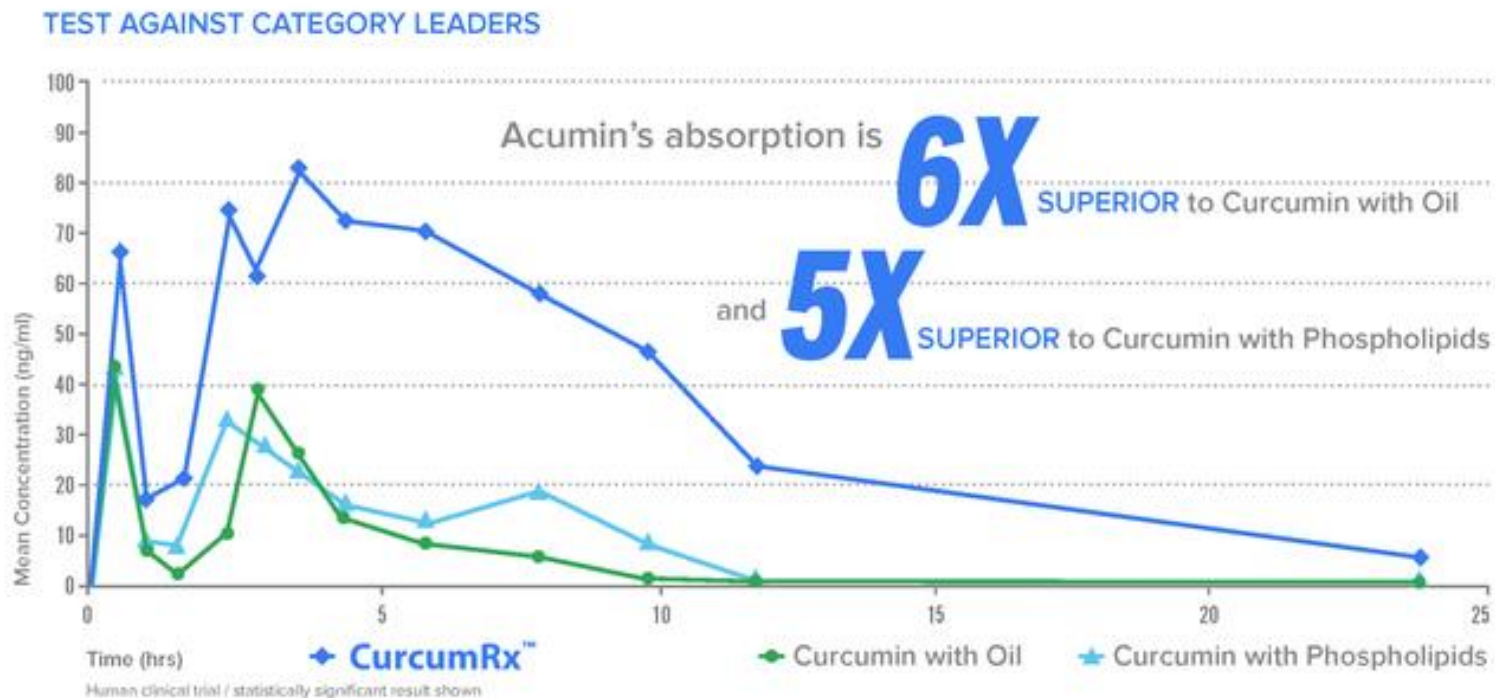


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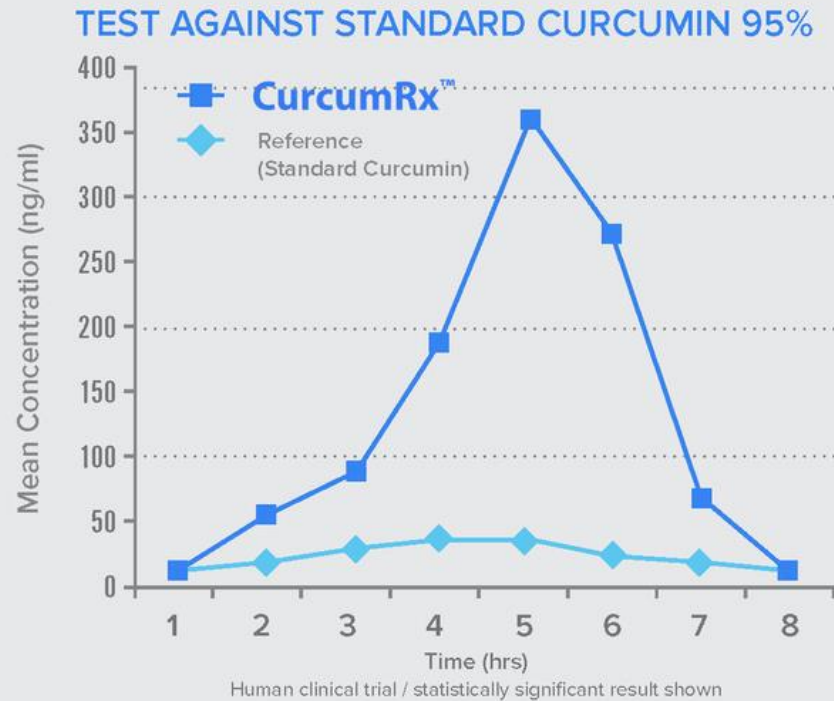
The CurcumRx™ Complex (A) demonstrated superior performance to both Curcumin w/ oil and Curcumin w/ phospholipid with respect to extent of absorption and rate of absorption (p<0.01)



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# CurcumRx™ - Natural Turmeric Complex was shown to absorb 10X more than standard curcumin



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Unlike typical 95% or other curcumin ingredients that are largely void of the other beneficial compounds found in turmeric. CurcumRx™ is a complex that delivers **45-50% curcuminoids PLUS** a range of over **200 beneficial turmeric root nutrients.**



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The CurcumRx™ Complex delivers complete, **100% turmeric root-derived nutrition PLUS** unprecedented bioavailability.



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# CurcumRx™

## Supplement Facts

Serving Size: 2 Capsules

Servings Per Container: 30

	Amount Per Serving	% Daily Value
Curcuma longa (emulsified) (root) (extract) †	500 mg	*
Superoxide Dismutase (from vegetable culture ††)	30 mcg	*
Catalase (from vegetable culture ††)	30 mcg	*

\* Daily Value not established

**Other ingredients:** Vegetarian capsule shell (modified cellulose) and silica.

† Emulsified Curcuma longa root extract is prepared using a non-chemical process which creates an excellent dual-phase, polar/non-polar emulsion for transport through the lipid membrane.

†† Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

**This product is gluten, dairy and GMO free.**

**RECOMMENDATION:** Two (2) capsules each day as a dietary supplement or as otherwise directed by a healthcare professional.

**KEEP OUT OF REACH OF CHILDREN**

Store in a cool, dry area.

Sealed with an imprinted safety seal for your protection.

Product # 8012 Rev. 04/17



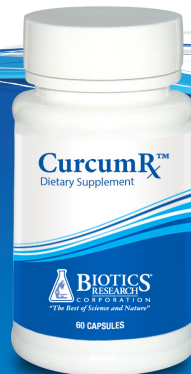
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Biotics Research is pleased to announce  
the launch of a new product!

# CurcumRx™

**CurcumRx™** supplies an all-natural turmeric complex, providing up to 50% total curcuminoid content, plus turmeric's 200 other naturally occurring compounds, including phenolic compounds, sesquiterpenes, sterol, fatty acids and more! **CurcumRx™** utilizes a specialized emulsion technology, concentrating turmeric's many nutrients and greatly enhancing bioavailability without the use of nanotechnology, including the use of tweens and other surfactants that may damage lipid membranes. **CurcumRx™** offers significant antioxidant capacity, supports healthy endothelial function, and inhibits the activation and release of NF-κB, thereby downregulating inflammatory mediators.



800-840-1676

[orders@bioticscan.com](mailto:orders@bioticscan.com)



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.

# Bringing you “The Best of Science and Nature”

## CurcumRx™

60 Capsules

Product Code: 8012

Suggested Retail Price: \$50.00

Recommended Dosage: Two (2) capsules each day as  
a dietary supplement or as otherwise directed by a  
healthcare professional.



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[www.bioticscan.com](http://www.bioticscan.com)

## CurQfen : MediHerb Tumeric Forte /Metagenics vs CurcumRx Biotics Research

Standard Process product contains 60 tablets providing 100 mg of curcumin per tablet from 115.6 turmeric extract. Fenugreek seed extract is also part of the CurQfen as 131.4 mg per tablet. They reference the Kumar article [J Funct Foods 2016; 22,578-587]. That article describes CurQfen as, "Enhanced bioavailability and relative distribution of free curcuminoids following oral administration of a food-grade formulation with fenugreek dietary fiber." Mediherb actually labels the product as their Tumeric Forte and on their tech sheet they list the Kumar study as the only reference for the product. The process is also disclosed in patent application US 2013/0029905 by Kumar et al.

### Composition

CurQfen curcuminoids with fenugreek fiber

CurcumRx curcuminoids with tumeric (100% tumeric product)

Patent: CurQfen, pending US 2013/0029905: CurcumRx method is not filed for patent (trade secret to date)

Concerns from CurQfen patent. Page 4 [0050] "Dried rhizomes of turmeric were powdered and **extracted with mixture of hexane and acetone** and solvent was evaporated with to get a pasty mass called turmeric oleoresin". This raises the concern for testing of each batch to assure that hexane levels comply with USP (United States Pharmacopeia). **Hexane is a class 2 solvent with limits to be no more than 290 mcg per gram (USP). Although hexane is not classified as a carcinogen, it is a neurotoxicant.**

**Processes:** The CurQfen process states the oleoresin curcumiod is added to an aqueous fenugreek fiber dispersion. The mixture appears to be blended under ultrasound and or homogenization. This dispersion is then dried below 80 C followed by granulation or spray drying.

The process of making CurcumRx is stated to use an oleoresin from turmeric prepared by ethanol extraction. The turmeric matrix contains curcuminoids, turmeric essential oil and a water extract of turmeric. The turmeric matrix of CurcumRx supplies 50% curcuminoids. The CurcumRx preparation is spray dried resulting in a final powdered preparation containing 50% curcuminoids.

**Differences of composition:** The CurQfen pending patent states that the method involves impregnation of curcuminoids in a soluble fiber (fenugreek) matrix to produce microencapsulates. The final composition has particle sizes of 5 microns that contain the dried fibrous gel with curcumin within the particle. The patent application states "Curcumin impregnated soluble fiber were prepared by ultrasound mediated gel-phase microencapsulation of curcuminoids in fiber matrix. 400 grams of curcumin with minimum of 91% purity was suspended in 400 grams of glycerine with sonication using 1000 Watt ultrasound generator for 1 hour at intervals of 10 minutes keeping the temperature below 70° C (158°F). The final product was dried under vacuum and finally milled. Alternatively, the solution can be spray dried. Glycerin maybe expected to be in the finished product as an equal part of the curcuminoids. As a processing aid it may not necessarily have to be on the label. Glycerin is a polyol with a high boiling point (554°F).



## Comparison Chart of curcumin absorption reported in the literature

Brand	Curcumin	Material	Cmax	Cmax/mg	AUC	AUC/mg	Reference
	Dose (mg)	Dose (mg)	ng/ml	curcumin	(ng-ml/hr)	Curcumin	
Curcum Rx	232.5	500	170	0.731	825	3.54	Gopi
CurQfen	250	97.7	341	3.42	963	3.85	Kumar
Meriva	99	500	70	0.707	187	1.89	Gopi
Theracumin	30	300	29.5	0.983	113	3.76	Sasaki
CAVAmox	376	2685	70	0.186	327	0.870	Purpura
BCM-95	429.5	500	46	0.107	117	0.27	Gopi
Curcuwin	376	1880	34.9	0.093	380	1.01	Jager
Bioperine	2000	20mg piperine	180	0.090	80	0.04	Shoba
Longvida	650	2000	22.4	0.035	95	0.146	Gota

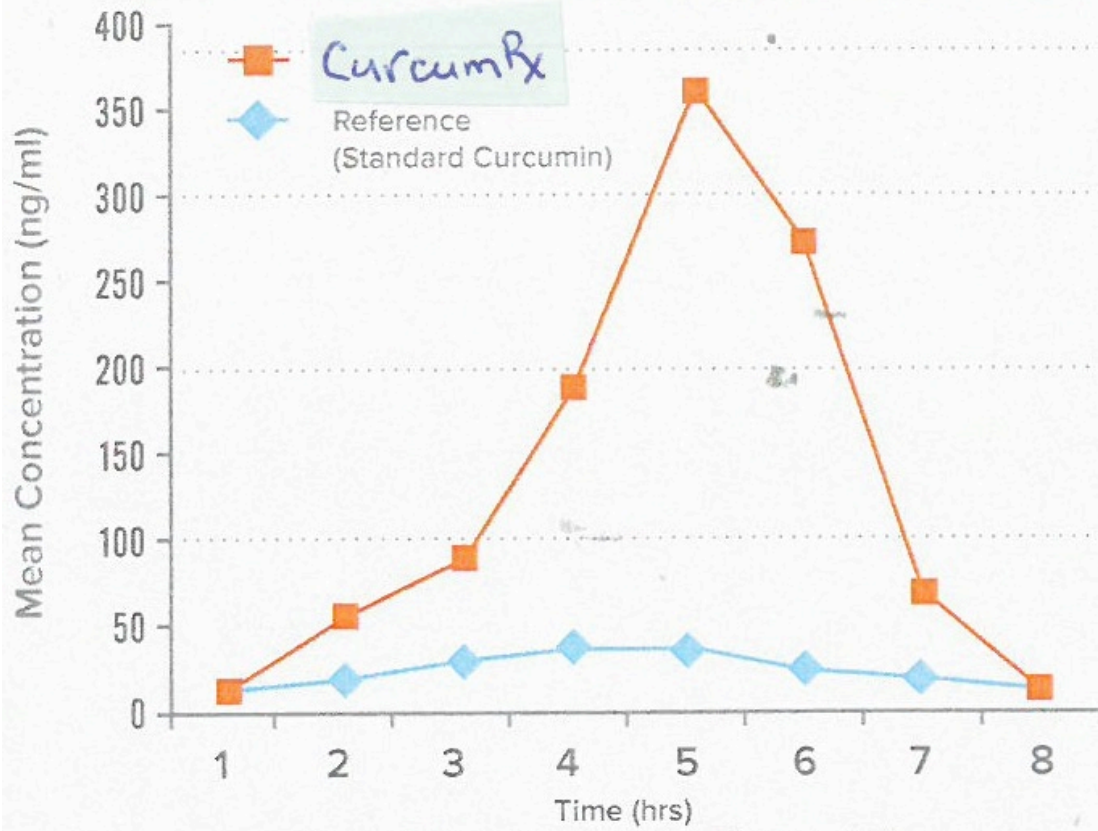
CurcumRx and CurQfen show similar total absorption per milligram (gm). However, the CurQfen shows a peak absorption at one hour and the CurcumRx shows a peak at three hours.

CurcumRx exhibits antioxidant capacity similar to vitamin C by a standard DPPH free radical assay method which Biotics Research also uses to standardize free radical quenching by antioxidant compounds (S. Gopi, et al 2017 Materials Science and Engineering). We will need to do this assay in house.

It is expected that both processes can result in oil particles of curcumin that are able to pass through the barriers of the intestinal membrane.

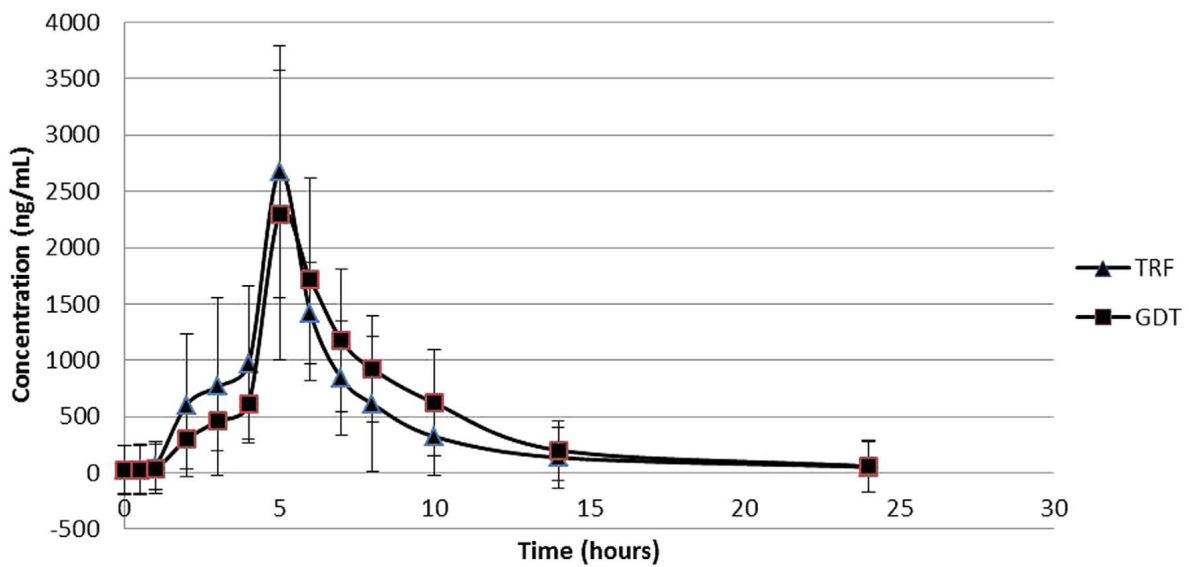
The absorption of delta tocotrienol is presented below. Vitamin E compounds are known to be absorbed lymphatically. As such they will peak later in the blood. The peak absorption is very similar to CurcumRx and suggests that CurcumRx may be absorbed lymphatically. To date that are no lymphatic studies on curcumin and the lymphatic system. I have contacted various researchers doing turmeric research and have asked for any findings in this area without any success.

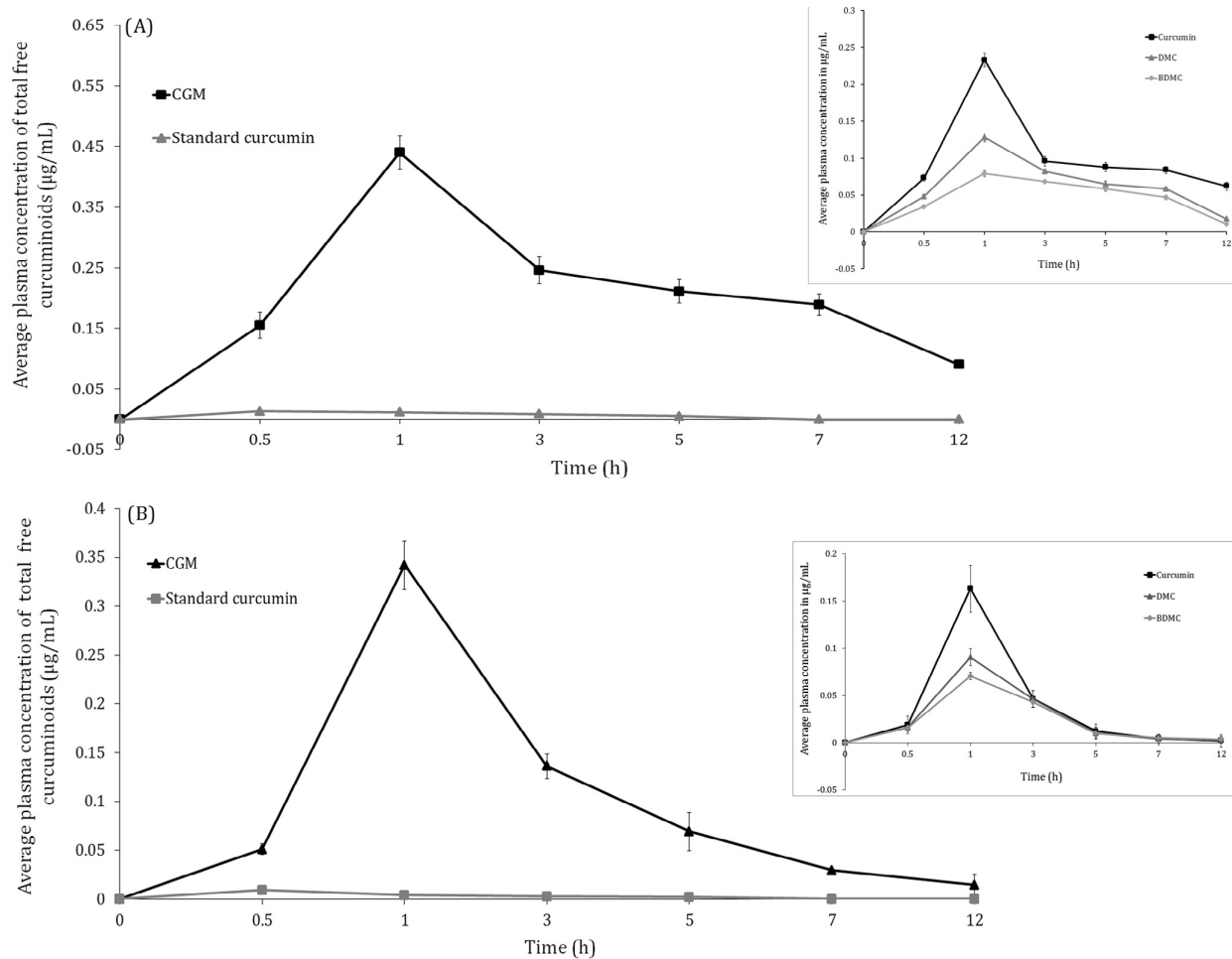
## TEST AGAINST STANDARD CURCUMIN 95%



Human clinical trial / statistically significant result shown

## Mean Plasma Concentration vs Time for Delta T3

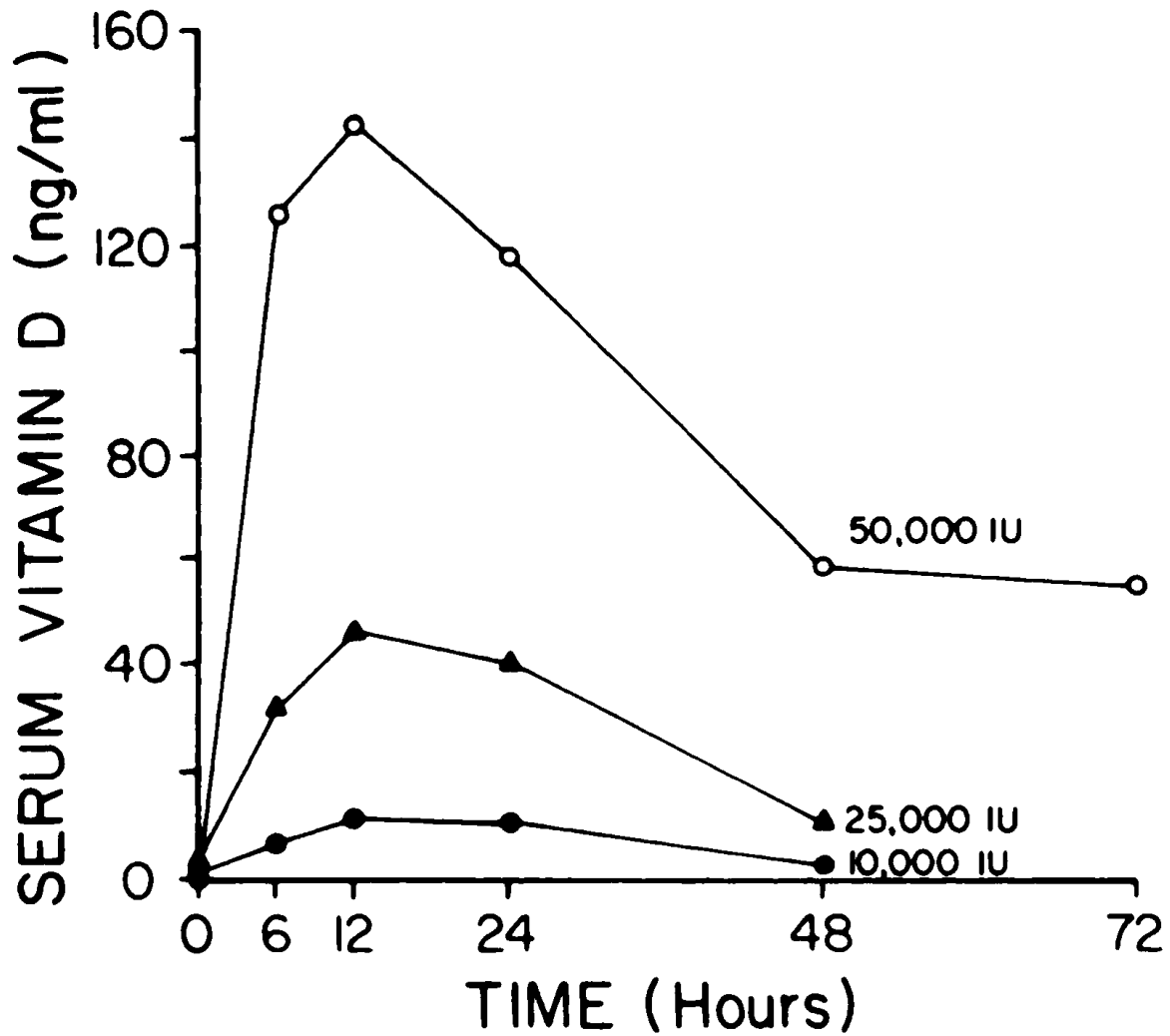




Top chart is the absorption in humans using CurQfen 1000 mg containing 391 mg of curcuminoids . The bottom chart is the absorption using CurQfen 250 mg containing 97.7 mg of curcuminoids. (Ref Kumar et al, Journal of Functional Foods 21 (2016) 578-587).

**What is puzzling is that the CurQfen large dose is four times (4x) the smaller dose yet the absorption max in only one and half times (1.5X) the smaller dose. This implies that is a limited absorption of that product for some reason. This has not been reported for CurcumRx. More studies are needed in the future.**

The last chart is what you expect to see with increasing dosage of an oily nutrient such as vitamin D3.



**FIG 1.** Serum vitamin D concentrations in a normal control subject after 50,000 IU (—○—), 25,000 IU (—▲—), and 10,000 IU (—●—) of vitamin D<sub>2</sub> in 100% ethanol, evaporated on toast.