

MicroActive® CoQ10 for Sports Nutrition



Developed by BioActives LLC
Distributed by Maypro Industries



CoQ10 Benefits For Exercise

Energy Cycle Essential • Powerful Antioxidant

- Improved perceived performance and recovery time along with higher blood oxygen levels.
- Increased endurance and time to exhaustion for trained and untrained athletes.
- Demonstrated more than a 2.5% increase in power as compared to placebo.
- Reduced exercise induced adverse consequences such as inflammation after 3,000 meter training.
- Reduced exercise induced muscle injury in kendo athletes.
- Reduced perception of fatigue during bicycling and other intense exercises.
- Prevented plasma oxidation damage in participants playing a football match.

MicroActive[®] CoQ10

Assuring The Right Dose

- Studies support a daily 300 mg dose over at least three weeks for best performance
- Poor CoQ10 absorption may be the reason for inconclusive results found by some studies
- Absorption may vary from person-to-person or decrease as dosing increases
- MicroActive CoQ10 sustained-release doubled CoQ10 levels in three weeks for 100% of the subjects

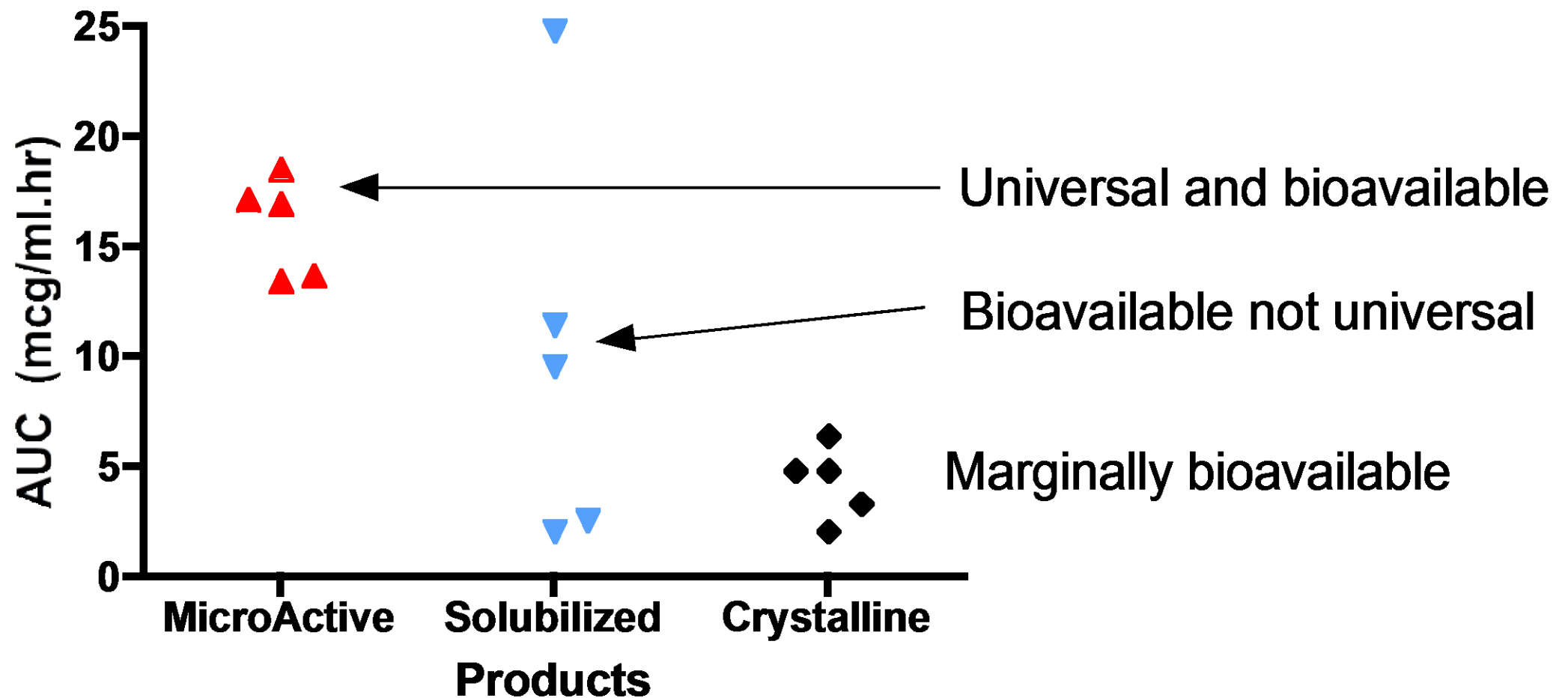
How MicroActive[®] CoQ10 Works

- Micronized Particles: Complexing with cyclodextrin reduces particle size and is therefore more easily absorbed by cells in the small intestine
- Water Dispersible: Cyclodextrins render CoQ10 water dispersible so it is easily transported through the small intestine regardless of fat/oil content
- Extended Release: Helps reduce absorbance differences between subjects by allowing time for physiological and dietary variations
- Slightly Stimulates Intestinal Cell Walls: Cyclodextrin are an active carrier slightly stimulating the cell wall to facilitate absorption

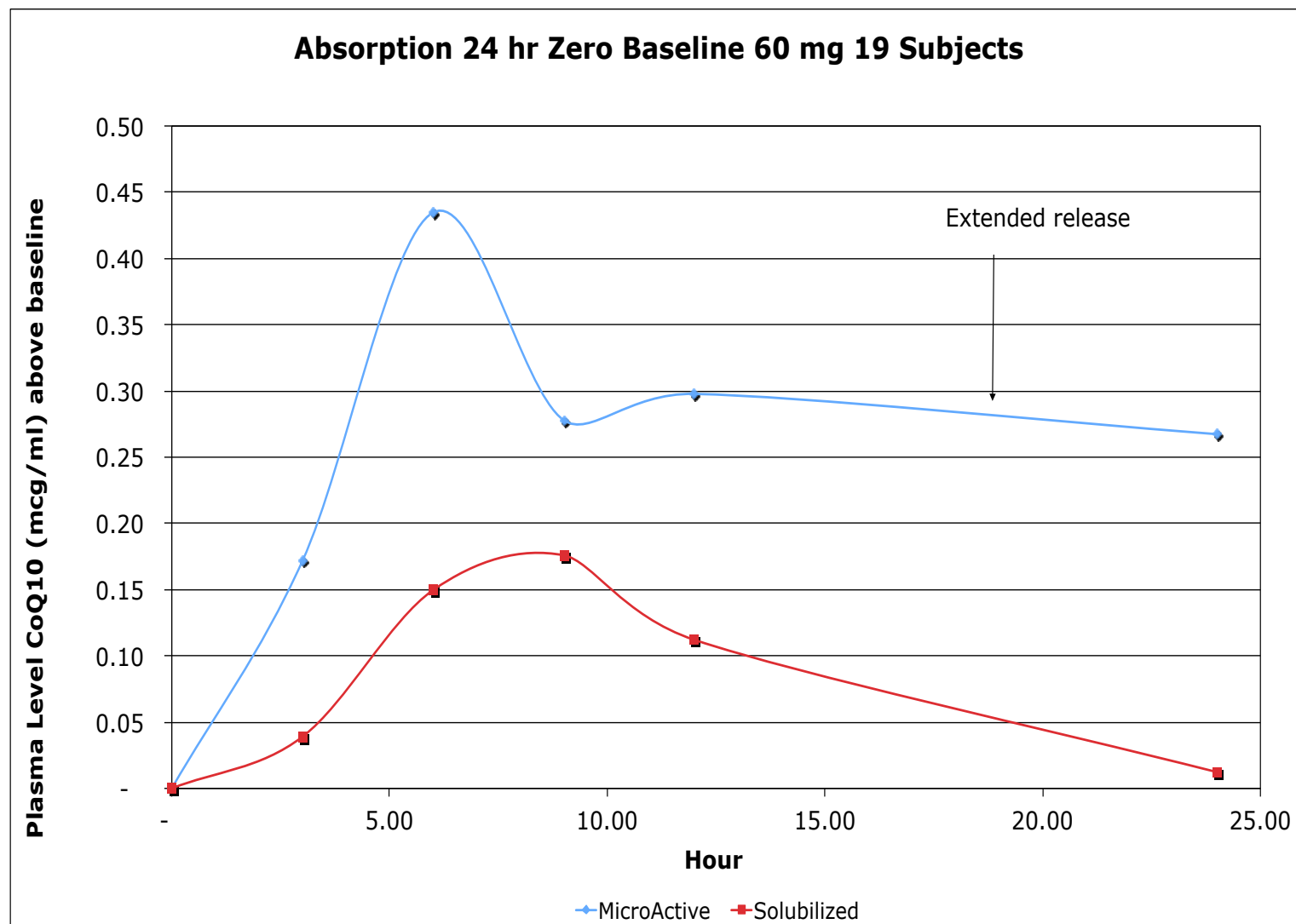
**Results of Human Studies
Comparing MicroActive[®] CoQ10 to
Advanced Solubilized Product
and Crystalline CoQ10**

*As Published In
Integrative Medicine 2010*

Universal Bioavailability Uptake by Subjects 0-24 hours



Absorption Performance MicroActive[®] to Solubilized Softgel CoQ10



Absorption Results

Comparison:	Conditions	Result
MicroActive: Crystalline	24hr 180 mg 8Ss	370% better ($p < 0.008$)
MicroActive: Solubilized	24 hr 180mg 5 Ss	58% better ($p < 0.02$)
MicroActive: Solubilized	24 hr 60mg 19 Ss	270% better ($p < 0.006$)
MicroActive: Second Solubilized	24 hr 180 mg 8 Ss	210% X better ($p < 0.03$)
MicroActive: Solubilized	3 weeks 60 mg 19 Ss	70% better ($p < 0.047$)

Universal Bioavailability Results

Comparison:	Conditions	Result
MicroActive: Solubilized	3 Weeks 60 mg 19 Ss	100% Ss double plasma level over baseline vs. 44% solubilized $p < 0.008$
MicroActive: Crystalline	24hr 180 mg 8Ss	7 MicroActive subjects double plasma level over baseline 0 Crystalline $p < 0.01$
MicroActive: Solubilized: Crystalline	24 hr 60mg 5 Ss	Number of subjects with AUC above 12mcg/ml.hr MicroActive [®] 5, softgel 1, crystalline 0 ($p < 0.04$)
MicroActive: Solubilized	24 hr 180mg 5 Ss	Variance in uptake 4.1x more for solubilized $p < 0.003$

MicroActive[®] CoQ10

Proven Properties

- Significantly more bioavailable than crystalline CoQ10 or advanced “solubilized” products at low and high dosing levels.
- Significantly reduces inter-subject variation in absorption – uniformly absorbed.
- CoQ10 levels doubled over baseline in three weeks for 100% of subjects

MicroActive[®] CoQ10

Advantages for Sports Nutrition

- Ensures CoQ10 benefits will be delivered
- Reduces dosage for more profitable products
- Can be blended with other powdered ingredients -- stable
- Suitable for food:
 - Stable under heat and *uv* light
 - Water dispersible
- Food applications:
 - Energy bars
 - Dairy products
 - Shakes and energy drinks

Marketing Implications

- A highly bioavailable product that improves performance, reduces injury, and shortens recovery time
- Superior ingredient for serious athletes
- Perfect for growing number of middle-aged and seniors returning to exercise who may be more prone to injury or discourage by fatigue
- May help sustain weight-loss and other health-focused exercise programs
- A perfect center-piece ingredient for a line focused on senior athletes

MicroActive[®] CoQ10

Product Concepts

- Clinical studies demonstrate that 300 mg of CoQ10 provide strength and anti-fatigue benefits
- Low and high level dosing produced significant increase in CoQ10 serum levels above baseline
- Three week administration of MA CoQ10 double CoQ10 levels over baseline for 100% of the subject
- 150 mg of MA CoQ10 would be a perfect choice for athletes or active people to experience the benefits of CoQ10 in an exercise regimen

Bibliography

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