

# CAVAQ10® – BOOST PERFORMANCE WITH HIGHLY BIOAVAILABLE COENZYME Q10

Health and fitness are major trends, as growing numbers of people around the world adopt a healthier lifestyle and turn increasingly to sports. As a result, the global sports nutrition market is expected to grow annually by 8.5% until 2030. WACKER can serve the sports nutrition market with two products for supplements that contain highly effective ingredients: CAVAQ10® and CAVACURMIN®.

## Growth Drivers for Sports Nutrition

As consumers realize the importance of fitness for overall health and well-being, the audience for sports nutrition has broadened from hardcore athletes to active lifestylers and the aging population. Sports nutrition can make workouts more efficient so that they fit into our busy lives.

## Functionality of Coenzyme Q10

Coenzyme Q10 (CoQ10) is a vitamin-like molecule present in every human cell, where its function is to efficiently transform ingested food into energy.

There are a number of studies that have linked the ingestion of CoQ10 with enhanced performance and delayed onset of fatigue<sup>1-5</sup>. CoQ10 increased time to exhaustion and decreased accumulation of lactate, resulting in delayed fatigue. Additionally, a human clinical trial showed that coenzyme-Q10-gamma-cyclodextrin complexes may protect muscle cells by functioning as free-radical scavengers and antioxidants<sup>6</sup>.

Normally, coenzyme Q10 is lipophilic and is difficult for the human body to absorb. WACKER's approach is to form a complex via non-covalent bonding with cyclodextrins to boost water dispersibility as well as bioavailability.

### Advantages of CAVAQ10®

- 18-fold increase in bioavailability
- Min. coenzyme Q10 content: 20%
- Contains fermentation-based CoQ10 (no synthetic CoQ10)
- CAVAMAX® W8 (GRAS) is a safe carrier
- Free from allergens and additives
- Vegan, kosher, halal
- Easily dispersible in water
- Various application forms possible



## Benefits of Combining CAVAQ10® with CAVACURMIN®

Sports nutrition products typically only target either performance or regeneration. By combining CAVAQ10® with CAVACURMIN®, WACKER makes it possible to address both trending issues at once. The combination of these ingredients is especially practical, since both provide superior bioavailability in the form of water-dispersible powders.

### A Powerful Duo for Boosting Sports Nutrition

Performance

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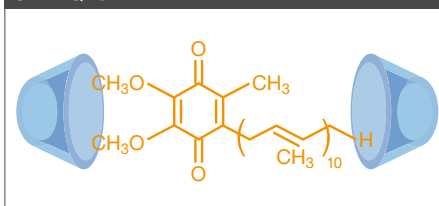
Recovery

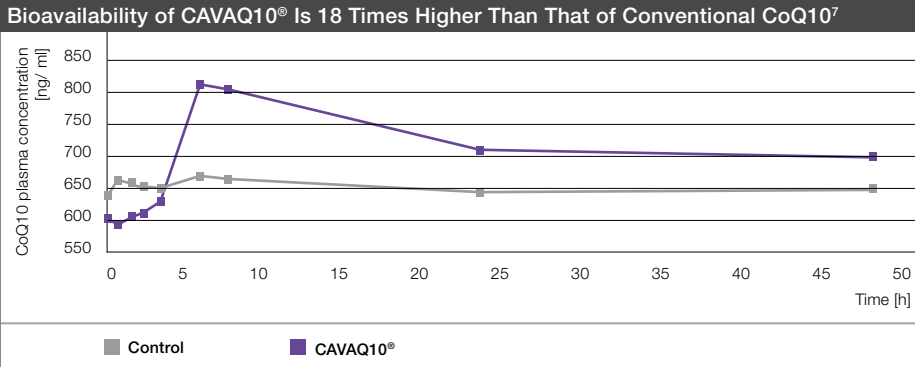


CAVAQ10®

CAVACURMIN®

### CAVAQ10®





18-fold increase in bioavailability (as measured by AUC) for CAVAQ10® vs. negative control.

**Benefits of CAVAQ10®**

Coenzyme Q10 can support performance during physical activity to enable a more efficient workout. Unfortunately, CoQ10 is fat-soluble and poorly absorbed by the body.

With CAVAQ10®, WACKER offers a highly bioavailable version of CoQ10 by complexing it with gamma-cyclodextrin. Complexation with cyclodextrin not only enhances the stability of the sensitive substances, but also markedly improves absorption by the body.



Literature: <sup>1</sup>Alf, D. et al., J Int Soc Sports Nutr 10 (2013) 24; <sup>2</sup>Demirci, N., J Biol 2 (2014) 18-24; <sup>3</sup>Gökbel, H., et al., J Strength Cond Res 24 (2010) 97-102; <sup>4</sup>Mizuno, K., et al. Nutrition 24 (2008) 293-299; <sup>5</sup>Cooke, M., et al., J Int Soc Sports Nutr 5 (2008) 8; <sup>6</sup>Uekaji, Y., et al., Biomed Res Clin Pract 2 (2017) 1-5; <sup>7</sup>Terao, K., et al., Nutrition Research 26 (2006) 503-508



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