



Up to 5× Higher Absorption: Comparative Single-Dose Bioavailability Study of BMT[®] Coenzyme Q10 vs. Pharmaceutical Standard

Product: BMT[®] Coenzyme Q10 · Biostile Microencapsulation Technology

CONDUCTED

2022

STUDY TYPE

Single-centre, Randomised, Crossover

PARTICIPANTS

25 subjects

COMPARATOR

USP Standard CoQ10

REGISTRY

NCT05272228G

STUDY OBJECTIVE

To evaluate the bioavailability and absorption of BMT[®] Coenzyme Q10 — produced via Biostile's patented coacervate microencapsulation process — in direct comparison with a standard USP-grade CoQ10 formulation. Serum CoQ10 concentrations were measured at multiple timepoints over 24 hours following a single dose.

METHODOLOGY

Design	Interventional, randomised, comparative, crossover single-dose bioavailability study
Participants	25 healthy subjects
Comparator	USP standard Coenzyme Q10 (pharmaceutical reference)
Measurements	Serum CoQ10 concentration at baseline and at 2, 4, 6, 12 and 24 hours post-dose
Primary endpoint	Relative difference in serum CoQ10 concentration (absorption, bioavailability)
Registry	ClinicalTrials.gov · NCT05272228G

<p>01 MICROENCAPSULATION</p> <p>CoQ10 dissolved in olive oil is enclosed in a coacervate microcapsule using a patented low-temperature process</p>	<p>02 GASTRIC PROTECTION</p> <p>The microcapsule wall is resistant to gastric acid – CoQ10 is not degraded in the stomach</p>	<p>03 TARGETED RELEASE</p> <p>Pancreatic enzymes disintegrate the wall in the small intestine, releasing the oil phase in the duodenum</p>	<p>04 ENHANCED ABSORPTION</p> <p>Controlled, targeted delivery maximises bioavailability – resulting in up to 5x higher serum absorption</p>
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DEMONSTRATED CLINICAL RESULTS

<p>5x</p> <p>Higher absorption of BMT® CoQ10 vs. pharmaceutical USP standard</p>	<p>100%</p> <p>Of all tested subjects expressed higher absorption with BMT® CoQ10</p>	<p>6–12h</p> <p>Peak absorption advantage observed at 6 and 12 hours post-dose</p>
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Significantly superior bioavailability confirmed: The study demonstrated that the bioavailability of BMT® Coenzyme Q10 is markedly better than that of standard USP CoQ10. Every single participant in the trial recorded higher serum CoQ10 concentrations following the BMT® formulation – a result consistent across the entire test group.

TECHNICAL ADVANTAGES OF BMT® COQ10

<p>FORMULATION PROPERTIES</p> <ul style="list-style-type: none"> ● High biological availability & absorption Confirmed up to 5x higher vs. pharmaceutical standard ● Controlled release Enzymatic release exclusively in the small intestine ● Increased product stability Low-temperature encapsulation preserves CoQ10 integrity 	<p>CONSUMER & QUALITY BENEFITS</p> <ul style="list-style-type: none"> ● Odour & taste masking Encapsulation neutralises the characteristic CoQ10 taste ● Vegan ingredients All components of the BMT® process are plant-based ● Patented technology BMT® is a globally registered, proprietary Biostile process
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- ✓ The study was conducted as a single-centre, randomised, crossover design – the gold standard for comparative bioavailability assessment. Each subject served as their own control, eliminating inter-individual variability. The crossover design and registration on ClinicalTrials.gov (NCT05272228G) confirm the study's scientific rigour and transparency.

CONCLUSION

In a randomised crossover bioavailability trial, BMT® Coenzyme Q10 demonstrated up to 5× higher serum absorption compared to the pharmaceutical USP standard – with 100% of participants showing superior absorption at 6 and 12 hours post-dose. Biostile's patented coacervate microencapsulation technology ensures gastric-resistant, targeted duodenal release, establishing BMT® CoQ10 as a clinically superior delivery form.

¹ Žmitek J, Žmitek K. Coenzyme Q10 as a Dietary Supplement and Drug. *Farm Vestn.* 2009; 60: 150–157.

² The Single-centre, Randomized, Comparative Single-dose Bioavailability Clinical Study of Different Coenzyme Q10 Products, conducted in 2022 on 25 subjects. ClinicalTrials.gov Identifier: NCT05272228G.

³ USP – United States Pharmacopoeia (pharmaceutical reference standard for CoQ10).

This document is intended for professional audiences and is not directed at the end consumer.