

Energy and Defense



Peter Lambrechts
SPEAKER

Singapore

Headquarters, R&D center



Yantai

Office and Factory



Shanghai

Operating Office



Chongqing

R&D, Office and Factory



Headquarters & Global Facilities

HIGHLIGHTS



18 YEARS

Since 2007, we deliver trust from our headquarter in **Singapore**.



2 WAREHOUSES

Global Reach, Local Presence –
Serving You from **Rotterdam** and
Barcelona.



6 EVENTS

Engaging with the Industry at 6
Key Events in 2025



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PIONEER IN ACTIVE NUTRITION



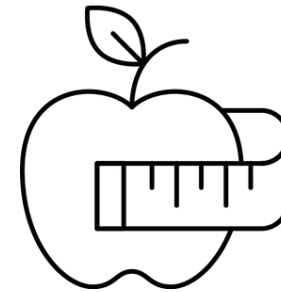
Nootropics

Sleep Aid
Mood Enhancer
Memory Improvement
Cognition Enhancer



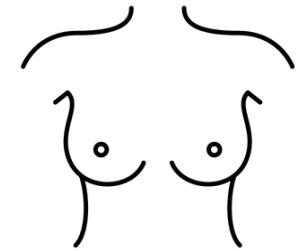
Weight Management

Keto Diet
Fat Burner
Blood Sugar Balance



Active Life

Bone & Joint
Healthy Aging
Active Cell Health
Cardiovascular Health



Women's Health

Hair Growth
Menopause
Hormonal Balance
Beauty from Within



Bone &
Joint Care



Weight
Management



Brain
Health



Vegan Protein
& Super Foods



If you have more than one product to search, you can click below "Quick Quotation" button

QUICK QUOTATION



Cardiovascular



Sports
Nutrition



Well Being



Immune
Booster

How do probiotics work in human
bodies?

Play Now

Hyaluronic Acid in Joint Care
Application

Play Now



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What is CoQ10 and Ubiquinol

INGREDIENTS 4U
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ACERCHEM
ACTIVE NUTRITION



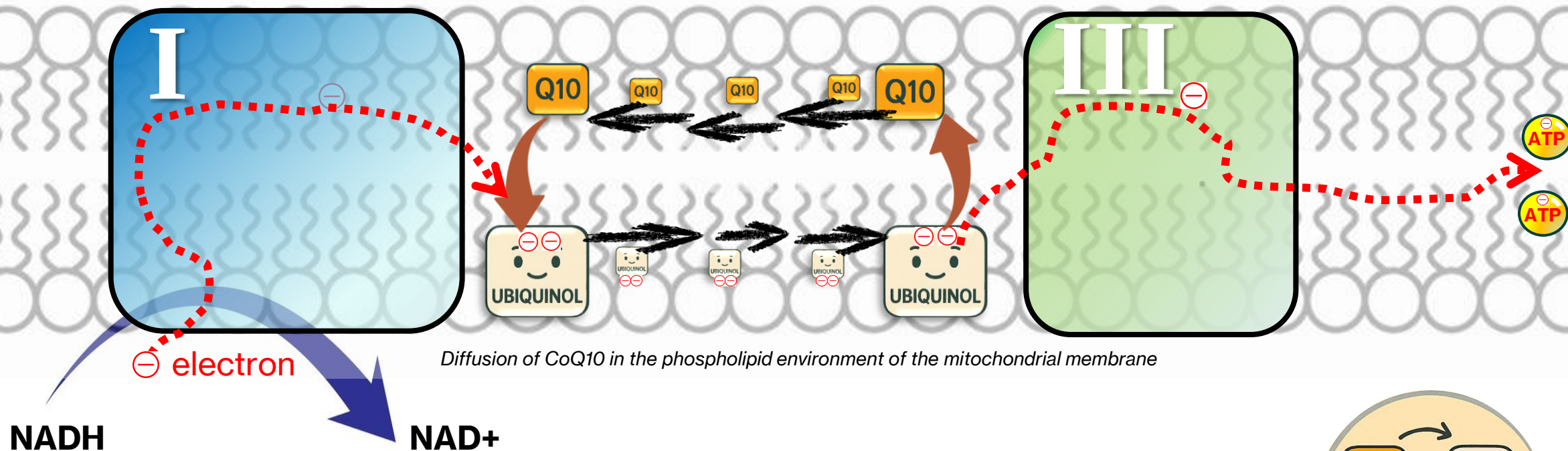
Dual Mechanism: Boosting Cellular Energy & Antioxidant Defense



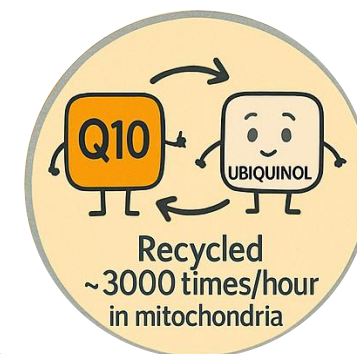
2 g CoQ10 in the body makes **70 kg ATP** /day



Coenzyme Q10 and the Cellular Energy Production Pathway

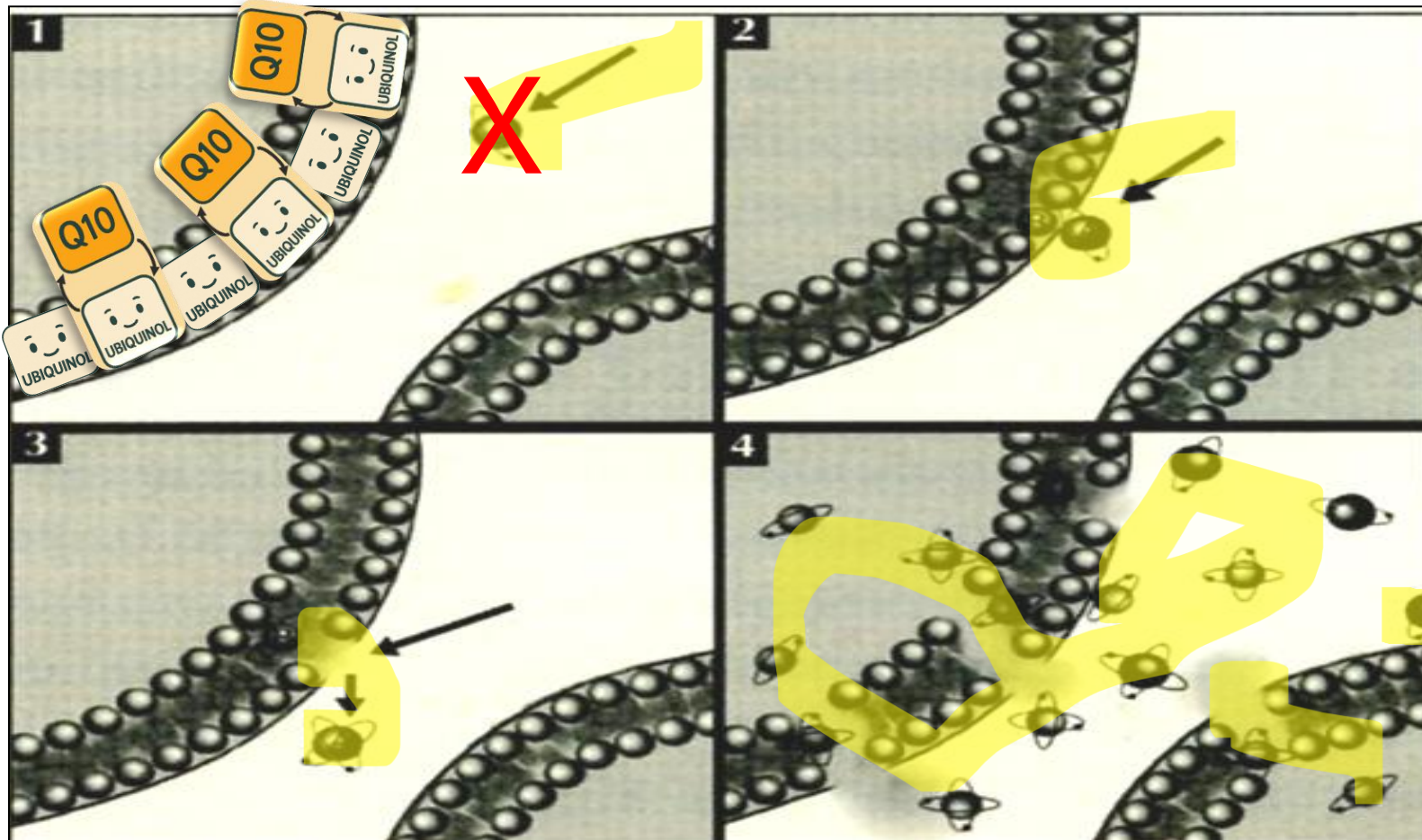


- **CoQ10** Drives ATP Production via Electron Transport
- Rate-Limiting Step: **Q10/UBIQUINOL** Diffusion in the Inner Mitochondrial Membrane



Ubiquinol and the Antioxidant Defense System

Protecting Cells from Free Radical Damage



A free radical seeks an electron (1) and steals it from the dense cell plasma membrane (2), damaging the membrane and triggering a chain reaction of free radical activity (3 and 4).

Q10 levels depend on organs and tissues

Coenzyme Q₁₀: multiple benefits in one ingredient

Gian Paolo LITTARRU¹
Peter LAMBRECHTS²

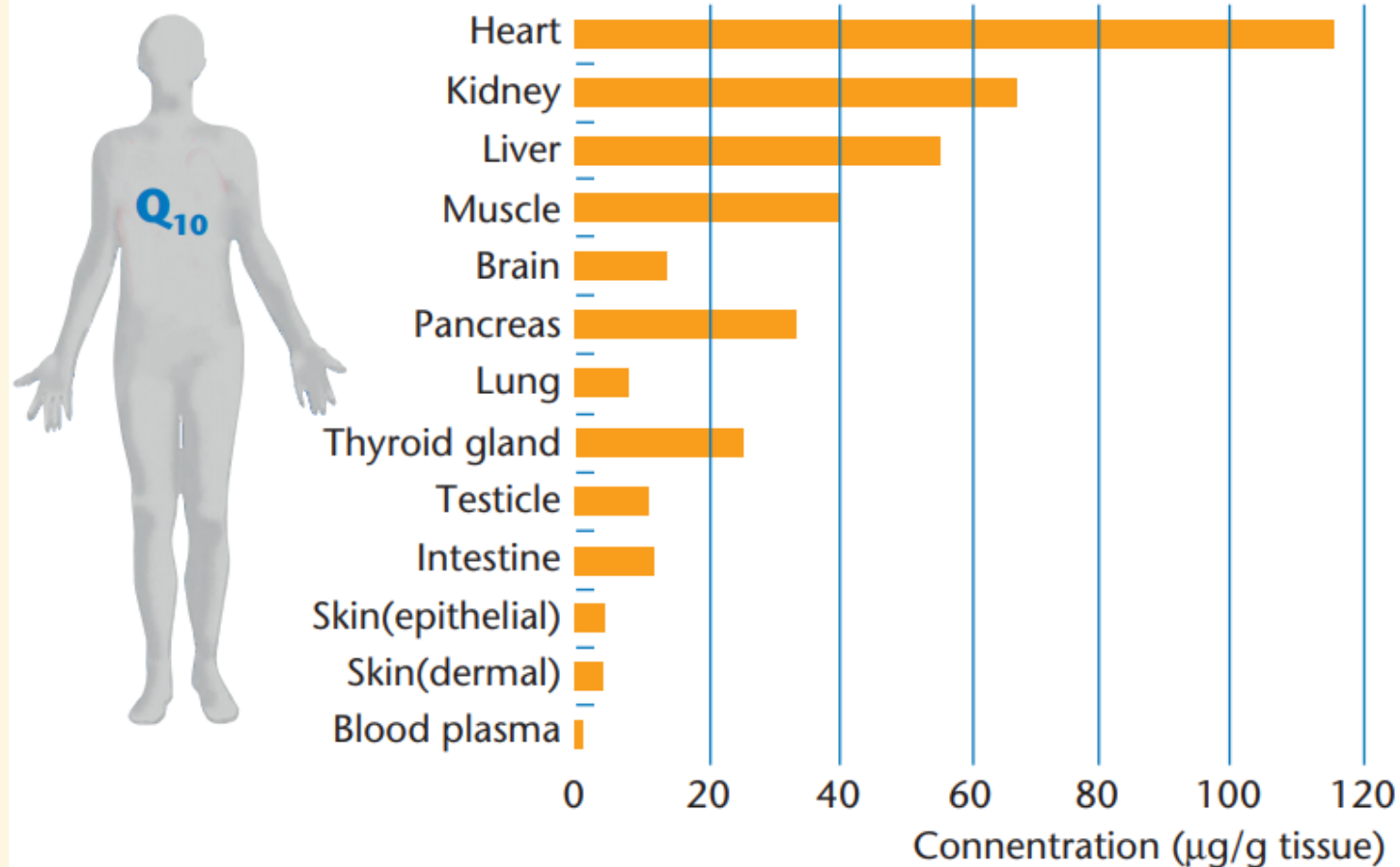
OCL 2011 ; 18(2) : 76-82



Prof Gian Paolo LITTARRU

(ex President of the International Coenzyme Q₁₀ Association)

Concentration of coenzyme Q₁₀ in different human tissues

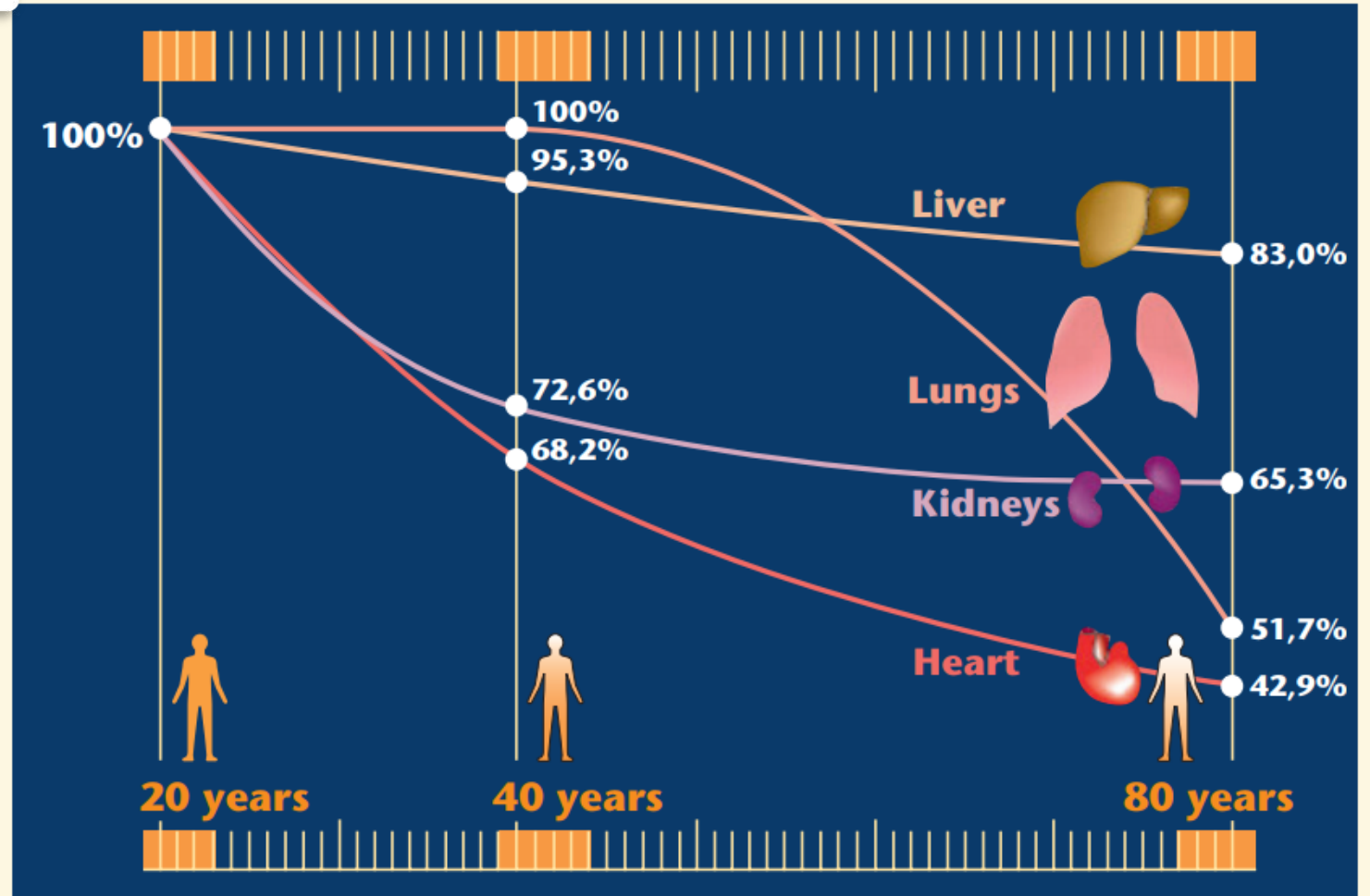


Organ content of total Q10 decreases with age

Coenzyme Q₁₀: multiple benefits in one ingredient

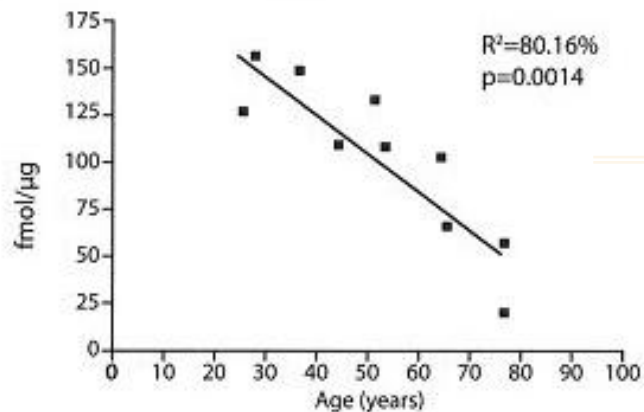
Gian Paolo LITTARRU¹
Peter LAMBRECHTS²

OCL 2011 ; 18(2) : 76-82



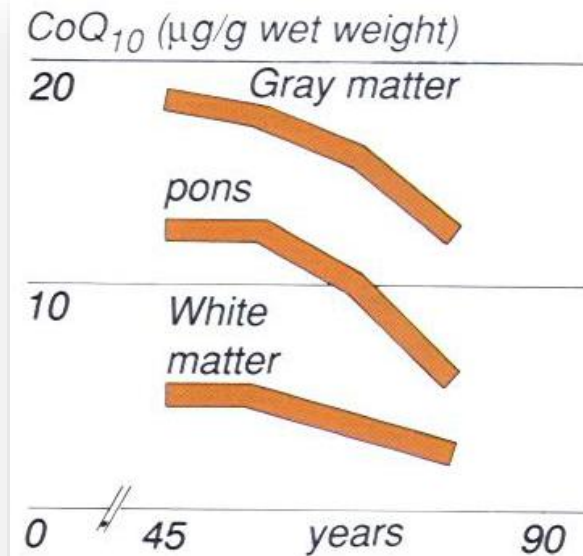
Organ CoQ10 declines with age

in SKIN



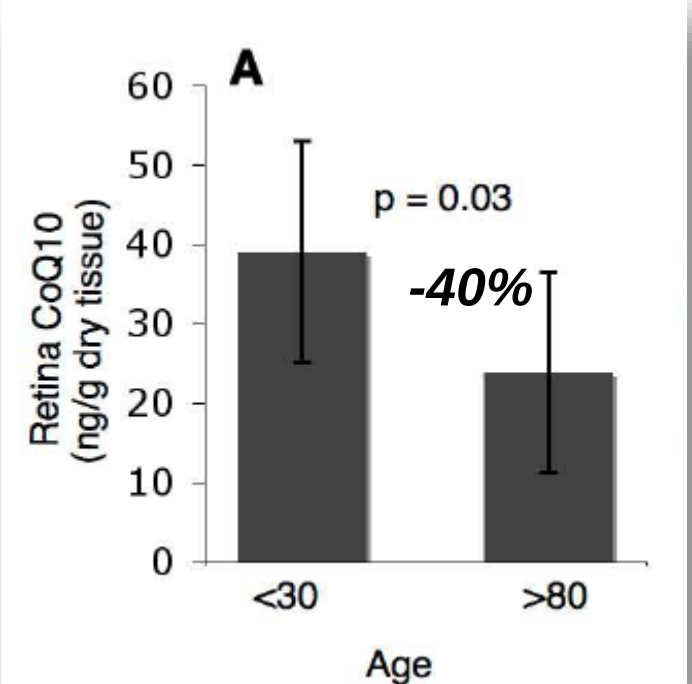
(Hoppe 1999)

in BRAIN



(Söderberg 1990)

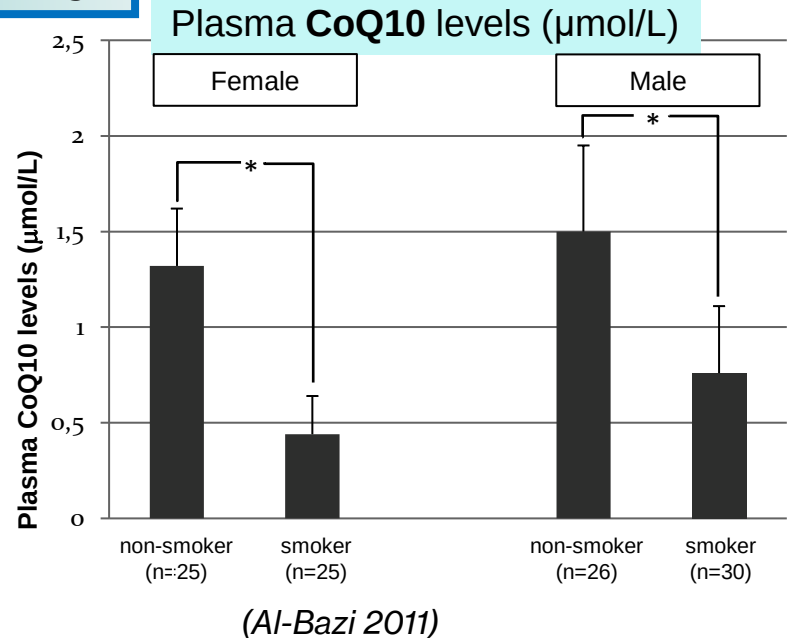
in EYE (retina)



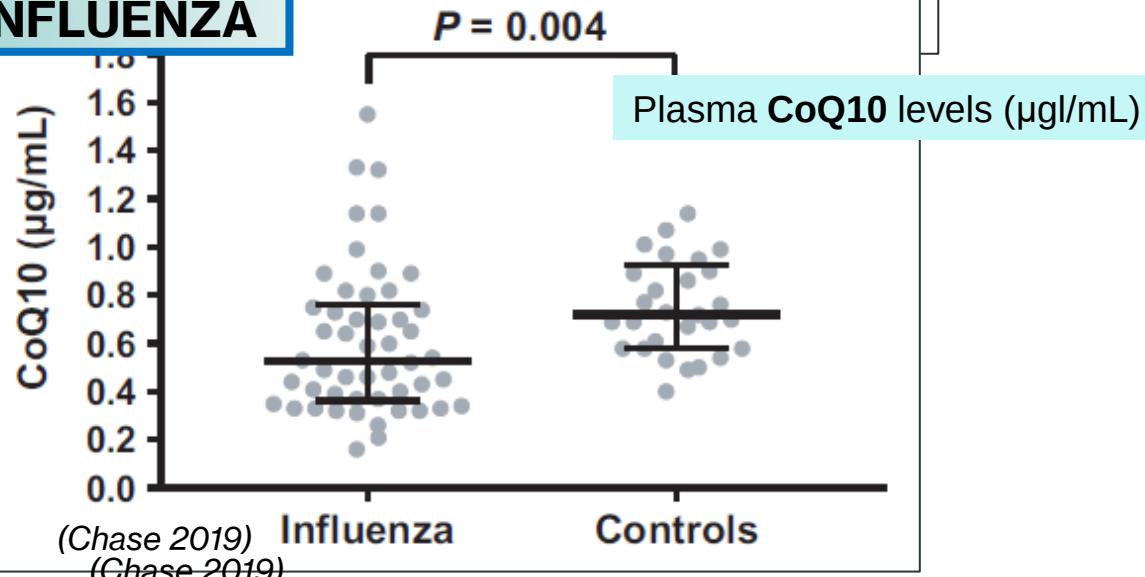
(Qu 2009)

Unhealthy individuals have lower Q10 levels

in SMOKING

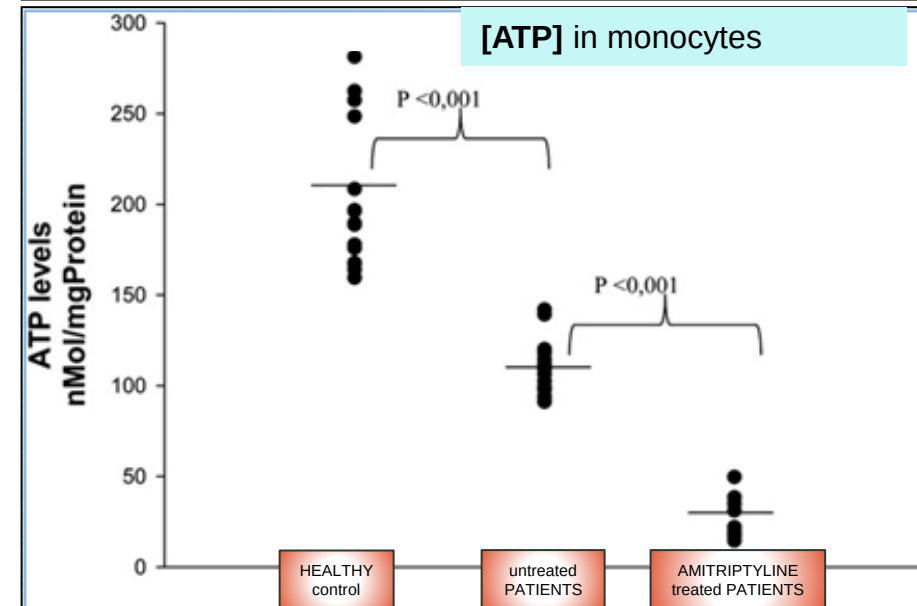
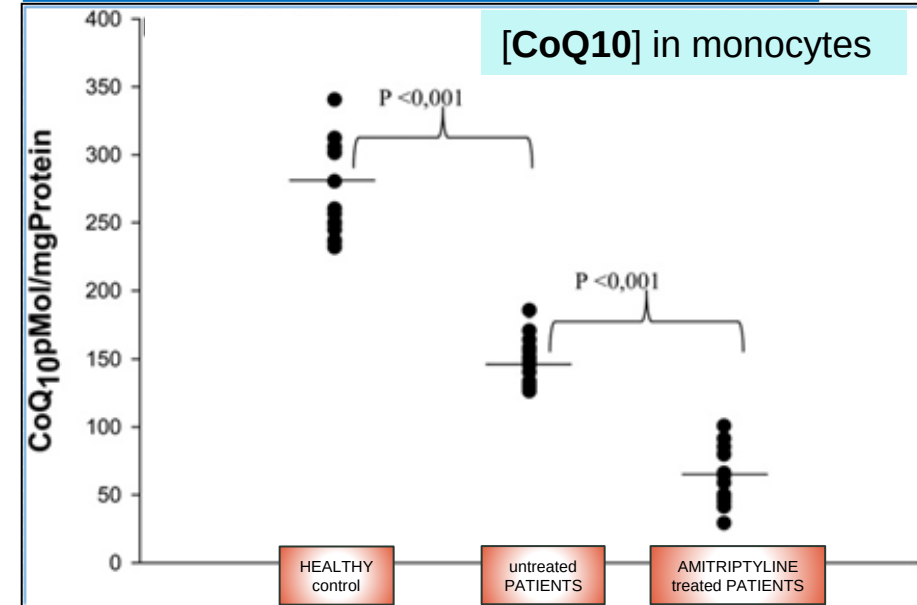


in INFLUENZA



in MEDICATION taking patients

Tricyclic antidepressant
(amitriptyline)



(Moreno-Fernández 2012)

CoQ10 levels are lower in the sick and unhealthy



Peter and **Prof. Dr. Anna Gvozdjaková**
Medical Faculty Bratislava

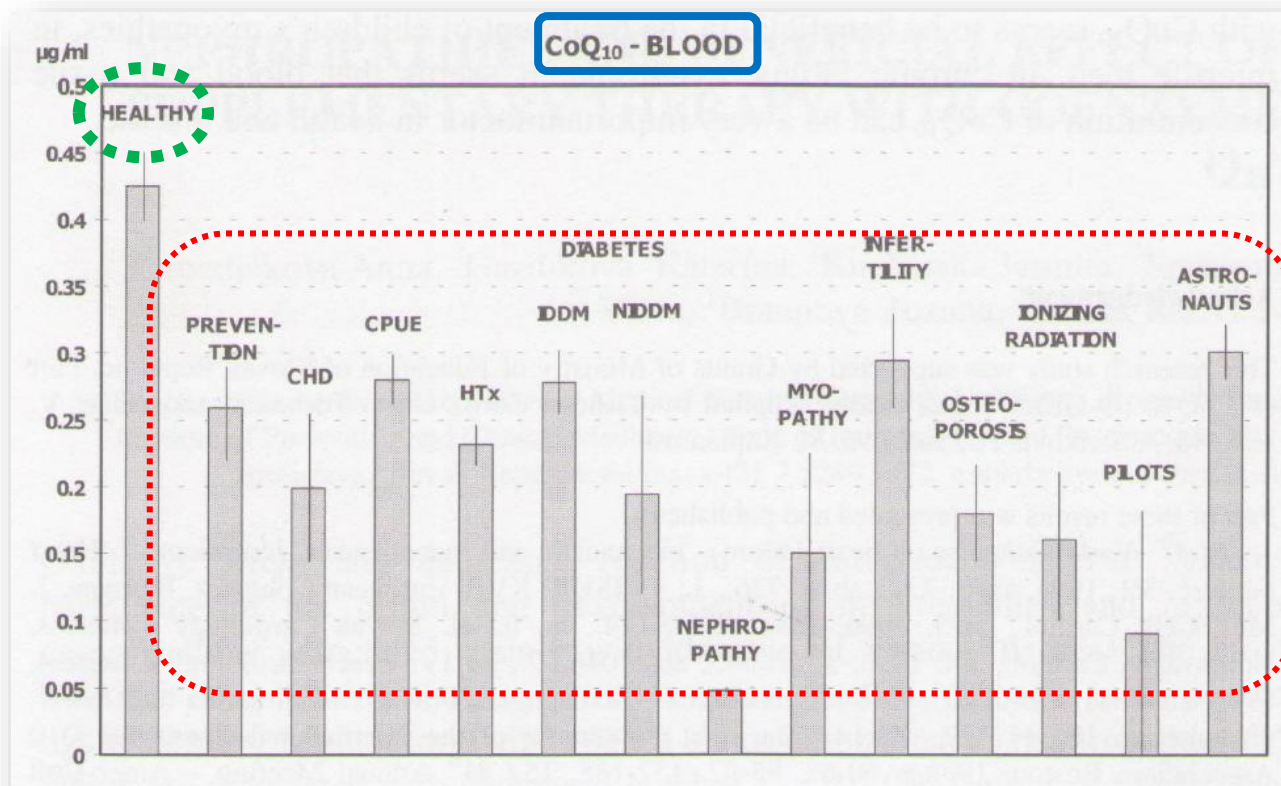


Fig.1.: Abbreviations: Healthy – healthy volunteers, Prevention – stressed people, CHD – chronic heart disease, CPUE – cardiomyopathy of unknown etiology, HTx- patients after heart transplantation, IDDM – insulin dependent diabetes mellitus, NIDDM – non insulin dependent diabetes mellitus, Astronauts – 2 Slovak pilots before start to Cosmos

Scientific Research & Health Benefit

CoQ10: A Scientifically Proven Nutrient



- 68 years of research
- Thousands of clinical studies
- Over 30 dedicated Q10 books



Q10 Scientific Update – August 2023

Efficacy field	Amount of published papers
All studies	22646
All human studies	7151
All human studies Cardiovascular	1981
All human studies Cancer	1442
All human studies Immunity	722
All human studies Mental Energy	685
All human studies Inflammation	539
All human studies Diabetes	353
All human studies Bioavailability	218
All human studies Fertility	218
All human studies Anti Aging	212
All human studies Q10 deficiency disease	197
All human studies Sports	129
All human studies Autism	24

MEDICAL ACCEPTED CLAIMS

PORTUGAL

Q10 is indicated in diseases where there is a deficiency of coenzyme Q10:

- In situations of mitochondrial cytopathies, including cardiomyopathies and encephalopathies due to deficits in cellular respiratory chain.
- As an adjuvant in the treatment of hypercholesterolaemia in patients who are receiving prolonged treatment with HMG-CoA reductase inhibitors, which inhibit the synthesis of coenzyme Q10.
- As adjuvant or co-adjuvant in the treatment of congestive heart failure in patients who are not responding well to conventional therapy, especially if treated with HMG-CoA reductase inhibitors (statins)
- for preventing myocardiotoxicity associated with antracyclins.

ITALY

- in case of Coenzyme Q10 congenital deficiency or in case of Coenzyme Q10 deficiency, and of impaired myocardial metabolism during acute or chronic cardiopathies"

SLOVENIA

- improves insufficient heart function, inhibits the initial process of atherosclerotic plaque formation, improves physical performance, especially during major physical strain and in some conditions like general muscular fatigability and weakness

HUNGARY

- In situations of justified coenzyme Q10 deficiency
- as adjuvant therapy to alleviate symptoms of chronic heart failure

DENMARK (as OTC-medicine):

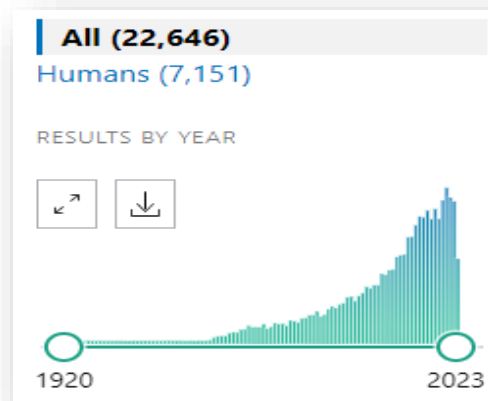
- Restore Q10 levels due to lower plasma and heart-tissue Q10 levels in heart-disease patients

RUSSIA:

Cardiovascular prescription medicine

JAPAN

- Improvement of oxygen utilization efficiency in ischemic myocardium
- Stimulation of ATP production in heart muscle
- Improvement of diminished cardiac function
- Anti-aldosterone effect



CoQ10: One Nutrient, Many Health Benefits



Heart health



Anti-aging



Endurance & sports



Fertility



CoQ10 and Mortality in Heart Failure

S. Molyneux, C. Florkowski et al.

Coenzyme Q10

An independent predictor of mortality in chronic heart failure

Journal of the American College of Cardiology, 2008, Vol 52, No.18: 1435-41

Q-SYMBIO: Landmark CoQ10 Heart Failure Study

Study Design

- Multicenter, randomized, double-blind, placebo-controlled trial
- 420 patients with severe heart failure (NYHA Class III/IV)
- Daily dose: CoQ10 300 mg or placebo
- Follow-up: **2 years**

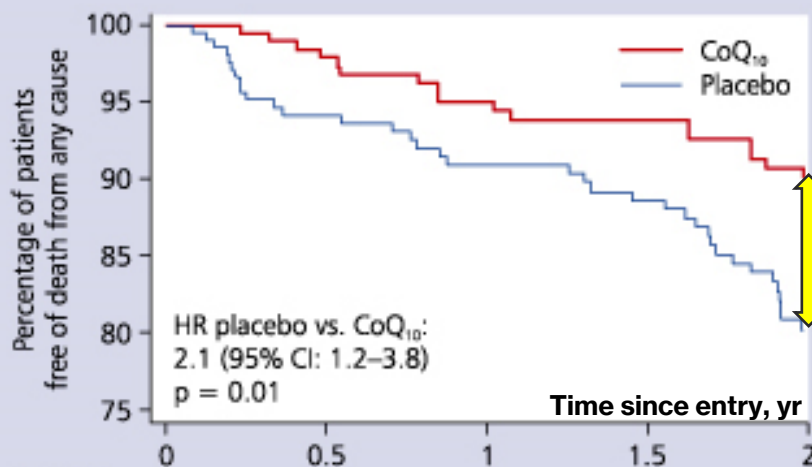
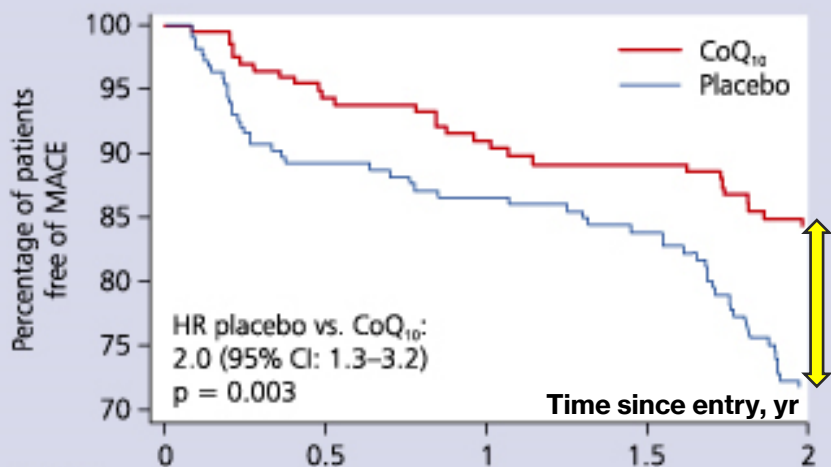
Key Results

Major Adverse Cardiovascular Events (MACE)

43% relative risk reduction

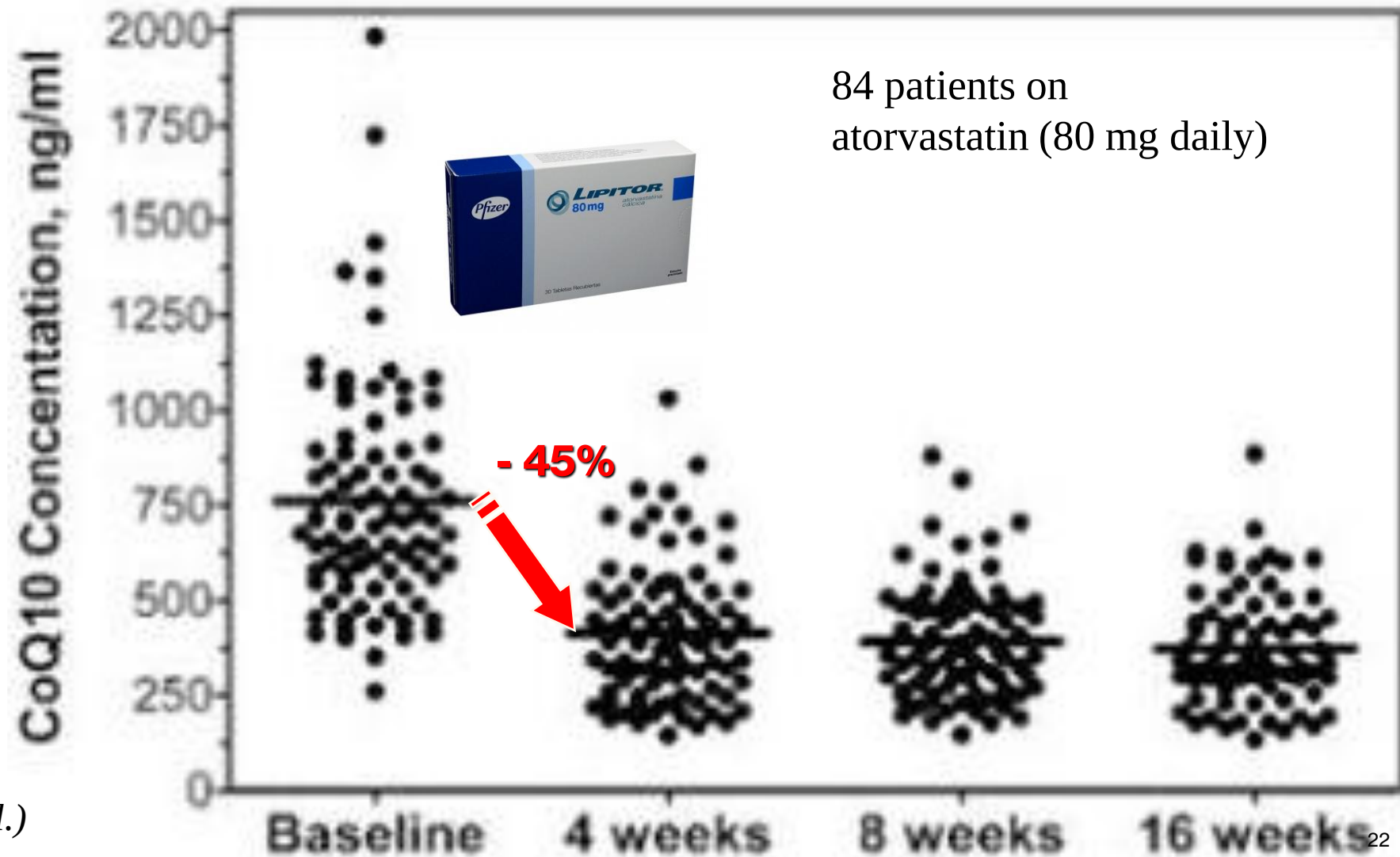
All-Cause Mortality

42% relative risk reduction



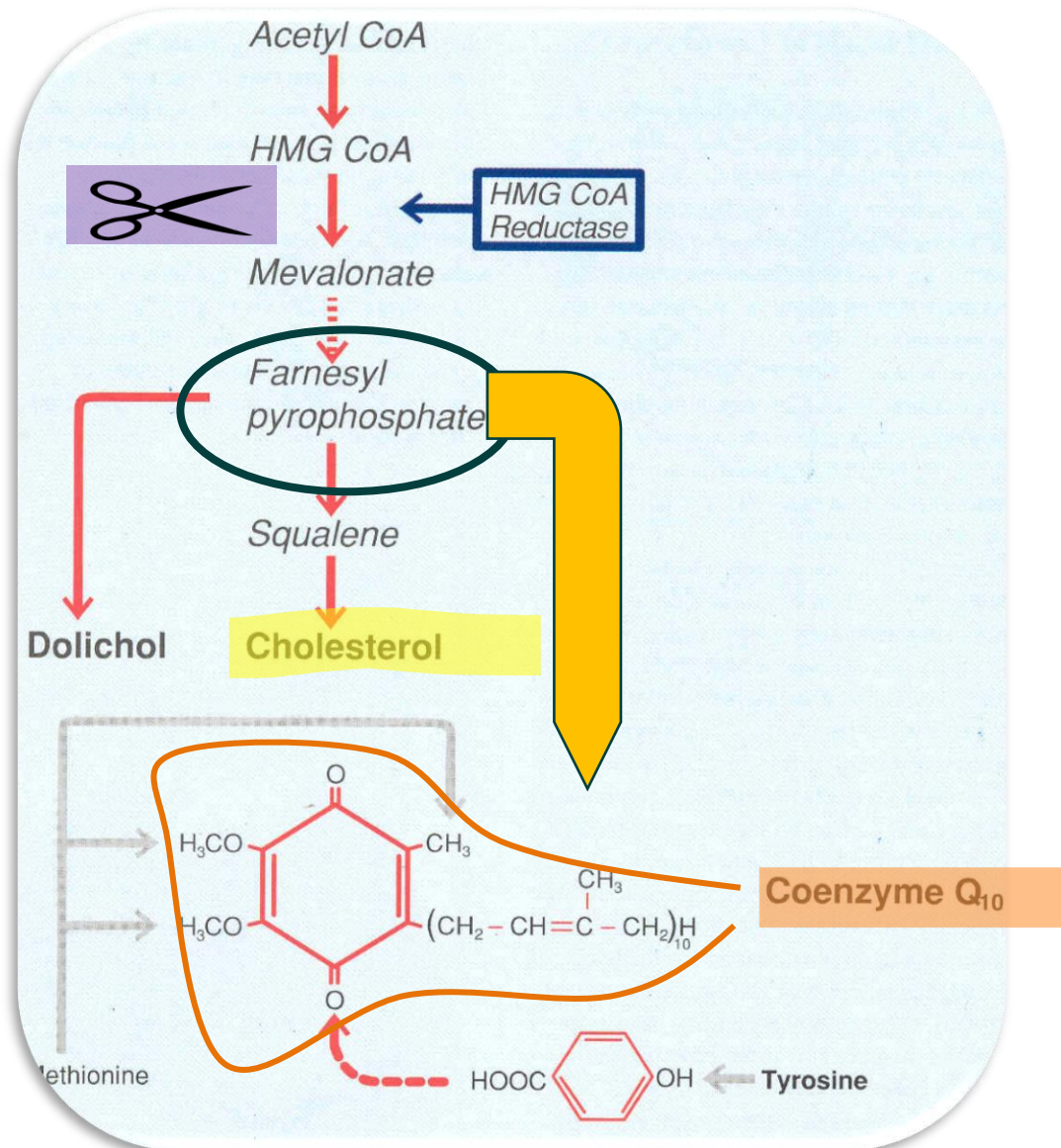
Prof. Svend Aage Mortensen
Medical Director
 Heart Transplantation Unit
 Rigshospitalet; Copenhagen

All Statins Lower Plasma Q10 as Much as LDL-Cholesterol



(Pacanowski, 2008 et al.)

Statins Inhibit Both Cholesterol and Q10 Biosynthesis



CoQ10 Reduces Statin-Related Muscle Pain

Study Design:

- Randomized Controlled Trial (RCT), human participants
- Daily dose: 100 mg CoQ10
- Sample size: 25 in CoQ10 group, 25 in placebo group
- Duration: 30 days

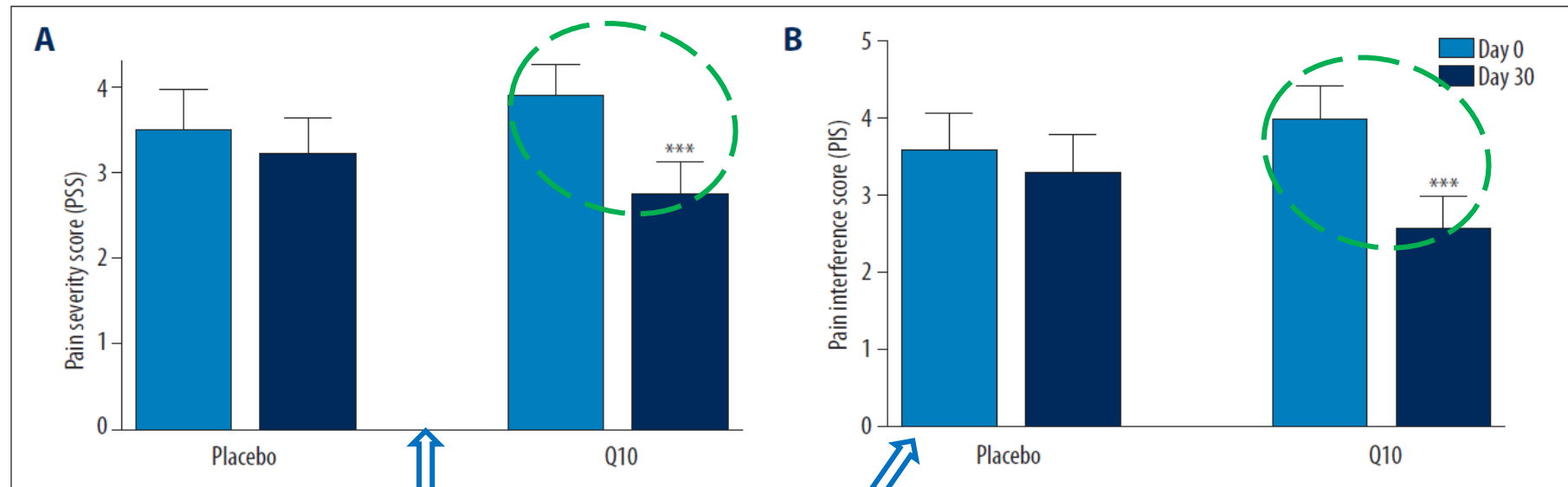


Figure 1. (A) Pain Severity Score (PSS) and (B) Pain Interference Score (PIS) in placebo and Q10 groups before (Day 0, light blue columns) and after Q10 or placebo supplementation (Day 30, navy columns). All data expressed as means $\pm$ SEM.

*** represents $P < 0.001$ Day 0 vs. Day 30 in the Q10 group.

(Skarlovnik A. et al. 2014)



EFFICACY TO REACH TARGETS

LIPITOR

(atorvastatin calcium)

10 mg, 20 mg, 40 mg and 80 mg tablets

THERAPEUTIC CLASSIFICATION: Lipid Metabolism Regulator

ACTIONS AND CLINICAL PHARMACOLOGY

LIPITOR (atorvastatin calcium) is a synthetic lipid-lowering agent. It is a selective, competitive inhibitor of 3-hydroxy-3-methylglutaryl-coenzyme A (HMG-CoA) reductase. This enzyme catalyzes the conversion of HMG-CoA to mevalonate, which is an early and rate-limiting step in the biosynthesis of cholesterol.

LIPITOR lowers plasma cholesterol and lipoprotein levels by inhibiting HMG-CoA reductase and cholesterol synthesis in the liver and by increasing the number of hepatic Low Density Lipoprotein (LDL) receptors on the cell-surface for enhanced uptake and catabolism of Low Density Lipoprotein (LDL).

LIPITOR reduces LDL-Cholesterol (LDL-C) and the number of LDL particles. LIPITOR also reduces Very Low Density Lipoprotein-Cholesterol (VLDL-C), serum triglycerides (TG) and Intermediate Density Lipoproteins (IDL), as well as the number of apolipoprotein B (apo B) containing particles, but increases High Density Lipoprotein-Cholesterol (HDL-C). Elevated serum cholesterol due to elevated LDL-C is a major risk factor for the development of cardiovascular disease. Low serum concentration of HDL-C is also an independent risk factor. Elevated plasma TG is also a risk factor for cardiovascular disease, particularly if due

with decreased HDL-C or increased LDL-C.

after oral administration; maximum plasma concentrations occur within 1 to 2 hours. Atorvastatin

PRECAUTIONS

Effect on Ubiquinone (CoQ₁₀) Levels

Significant decreases in circulating ubiquinone levels in patients treated with atorvastatin and other statins have been observed. The clinical significance of a potential long-term statin-induced deficiency of ubiquinone has not been established. It has been reported that a decrease in myocardial ubiquinone levels could lead to impaired cardiac function in patients with borderline congestive heart failure (see SELECTED BIBLIOGRAPHY in product monograph).

inadequate, including:

- Primary hypercholesterolemia (Type IIa);
- Combined (mixed) hyperlipidemia (Type IIb), including familial combined hyperlipidemia, regardless of whether cholesterol or triglycerides are the primary lipid of concern;
- Dysbetalipoproteinemia (Type III);
- Hypertriglyceridemia (Type IV);
- Familial hypercholesterolemia (homozygous and heterozygous). For homozygous familial hypercholesterolemia, LIPITOR should be used as an adjunct to treatments such as LDL apheresis, or as monotherapy if such treatments are not available.

LIPITOR also raises HDL-cholesterol and therefore lowers the LDL-C/HDL-C and total-C/HDL-C ratios in patients with primary hypercholesterolemia and combined (mixed) hyperlipidemia (Fredrickson Type IIa and IIb dyslipidemia). In pooled data from 24 controlled clinical trials, LIPITOR raised HDL-C levels 5%-7% in primary hypercholesterolemia (type IIa) patients and 10%-15% in mixed (type IIb) dyslipidemic patients. These changes in HDL-C with HMG-CoA reductase inhibitors should be considered as modest when compared to those observed in LDL-C and do not play a primary role in the lowering of LDL-C/HDL-C and total-C/HDL-C ratios.

In clinical trials, LIPITOR (10 to 80 mg/day) significantly improved lipid profiles in patients with a wide variety of hyperlipidemic and dyslipidemic conditions. In 2 dose-response studies in mildly to moderately hyperlipidemic patients (Fredrickson Type IIa and IIb), LIPITOR reduced the levels of total cholesterol (29-45%), LDL-C (39-60%), apo B (32-50%), TG (19-37%), and increased



Life is our life's work

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Kirkland, Quebec

H9J 2M5

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Hepatic Effects

In clinical trials, persistent increases in serum transaminase levels were observed in patients who received LIPITOR. When the dosage of LIPITOR was reduced or discontinued, transaminase levels returned to pretreatment levels. Most patients continued treatment without symptoms. Liver function tests should be performed before treatment and then performed more frequently if necessary.

Liver function tests should be performed before treatment and then performed more frequently if necessary.

If increases in alanine aminotransferase

particularly if they rise to greater than 3 times the upper limit of normal and are persistent, the dosage should be reduced or the drug discontinued.

LIPITOR should be used with caution in patients who consume substantial quantities of alcohol and/or have a past history of liver disease. Active liver disease or unexplained transaminase elevations are contraindications to the use of LIPITOR; if such a condition should develop during therapy, the drug should be discontinued.

Muscle Effects

Myopathy, defined as muscle aching or muscle weakness in conjunction with increases in creatine phosphokinase (CPK) values to greater than ten times the upper limit of normal, should be considered in any patient with diffuse myalgia, muscle tenderness or weakness, and/or marked elevation of CPK. Patients should be advised to report promptly unexplained muscle pain, tenderness or weakness, particularly if accompanied by malaise or fever. LIPITOR therapy should be discontinued if markedly

PRECAUTIONS

General

The effects of atorvastatin-induced changes in lipoprotein levels, including reduction of serum cholesterol on cardiovascular morbidity or mortality or total mortality have not been established.

Before instituting therapy with LIPITOR (atorvastatin calcium), an attempt should be made to control elevated serum lipoprotein levels with appropriate diet, exercise, and weight reduction in overweight patients, and to treat other underlying medical problems (see INDICATIONS AND CLINICAL USE). Patients should be advised to inform subsequent physicians of the prior use of LIPITOR or any other lipid-lowering agents.

Effect on the Lens

Current long-term data from clinical trials do not indicate an adverse effect of atorvastatin on the human lens.

Effect on Ubiquinone (CoQ₁₀) Levels

Significant decreases in circulating ubiquinone levels in patients treated with atorvastatin and other statins have been observed. The clinical significance of a potential long-term statin-induced deficiency of ubiquinone has not been established. It has been reported that a decrease in myocardial ubiquinone levels could lead to impaired cardiac function in patients with borderline congestive heart failure (see SELECTED BIBLIOGRAPHY in product monograph).

Ubiquinol Boosts Peak Power in Athletes

Randomized, Double-Blind, Placebo controlled study



Study Protocol

German Olympic Athletes (Age: 19.9 ± 2.3 yrs, N=100)

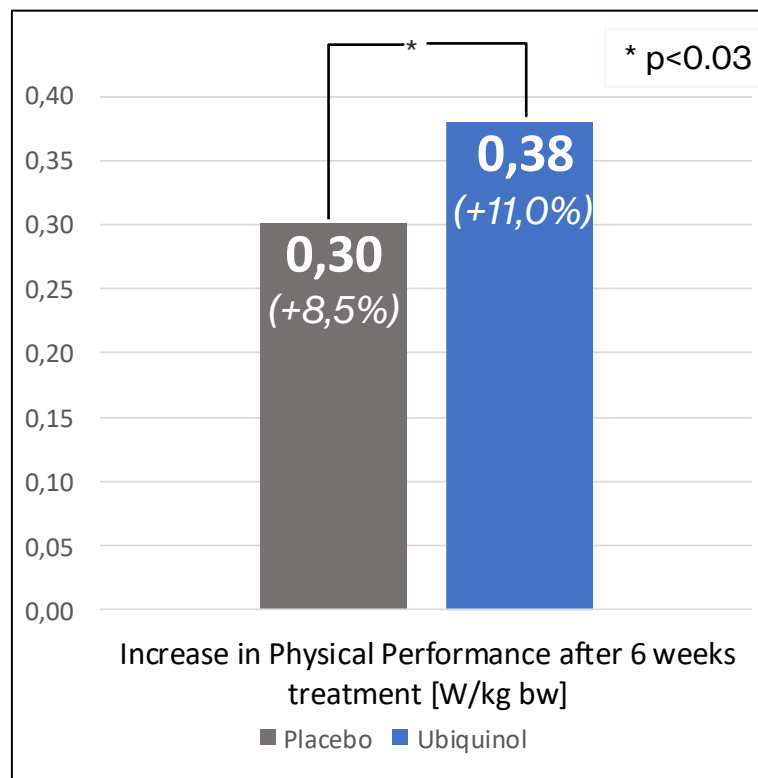
Supplementation: 300 mg Ubiquinol/day vs Placebo

Duration: 6 weeks

Test: Max power output test on a cycling ergometer

Measured: Before (T0) and After (T6) at 4 mmol lactate threshold

Results



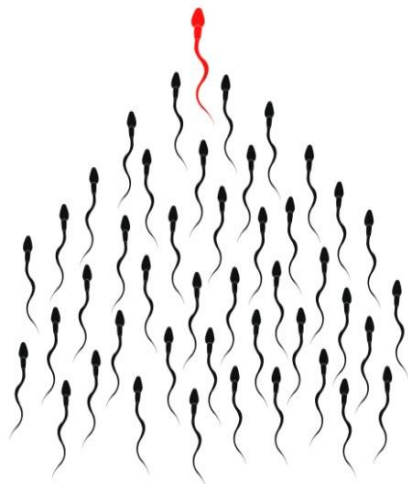
Conclusion

Ubiquinol significantly improves short-term maximal performance boosting anaerobic power output in elite athletes.

(Alf 2013)



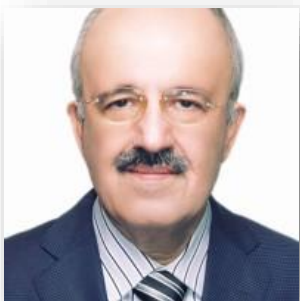
Ubiquinol may support male fertility



Double-Blind, Placebo-Controlled Randomized Study
Safarinejad 2012, J. Urology

STUDY OVERVIEW

- Participants: 228 infertile men with idiopathic oligoasthenoteratozoospermia
- Treatment: 200 mg/day Ubiquinol or placebo
- Duration: 26 weeks + 12-week washout
- Goal: Evaluate changes in semen parameters



RESULTS (vs. baseline):

- Sperm Density: +81.6% ($p = 0.005$)
 - Motility: +31.7% ($p = 0.008$)
 - Morphology: +24.0% ($p = 0.01$)
- Placebo group: No significant changes

Prof Dr. Mohammad Reza Safarinejad

Clinical Center
Urological Disease Diagnosis
Tehran, Iran

CONCLUSION

Ubiquinol significantly improved key semen parameters in infertile men.

Bioavailability & Stability

CoQ10 plasma levels

Plasma CoQ10 (µg/ml)	State
< 0,6	Critical
0,6 – 0,7	Lowered
0,70 – 1,0	Normal <i>(healthy subjects)</i>
> 1,2	Preventive
> 3,5	Therapeutic

100mg/day Q10 (or 2x 50mg)



*Based on bioavailability studies across different formulations and plasma analysis studies
(linked to health/disease state)*

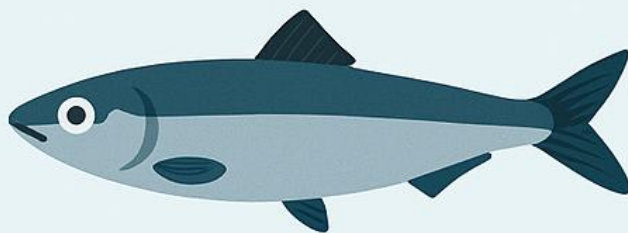
Diet alone can not restore optimal CoQ10 levels

- Average daily Q10 intake from food: 3-5 mg/day
- Recommended supplementation dose: 100 mg/day

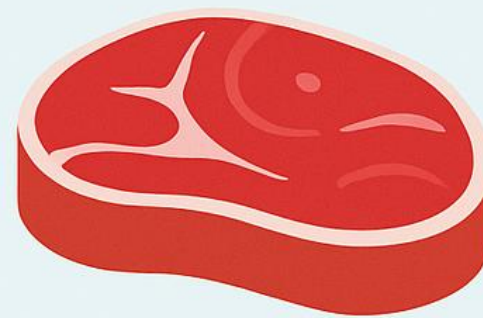
⚠ To reach this through diet, you would need to eat:



10 kg of broccoli



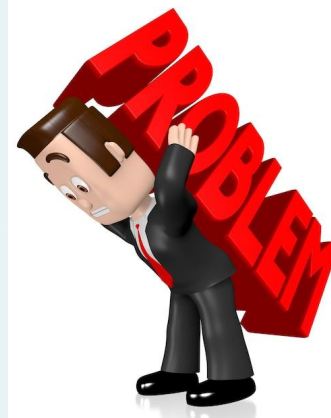
1,6 kg of sardines



3 kg of beef

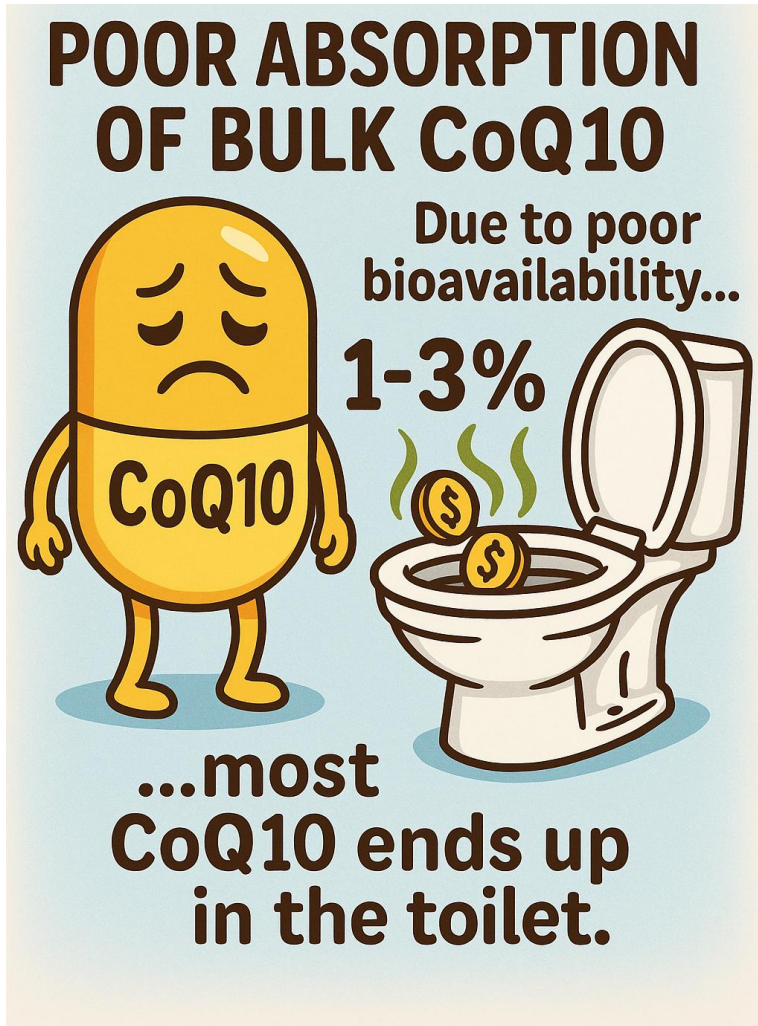
(Kamei 1986)

→ Supplementation is essential to meet effective levels

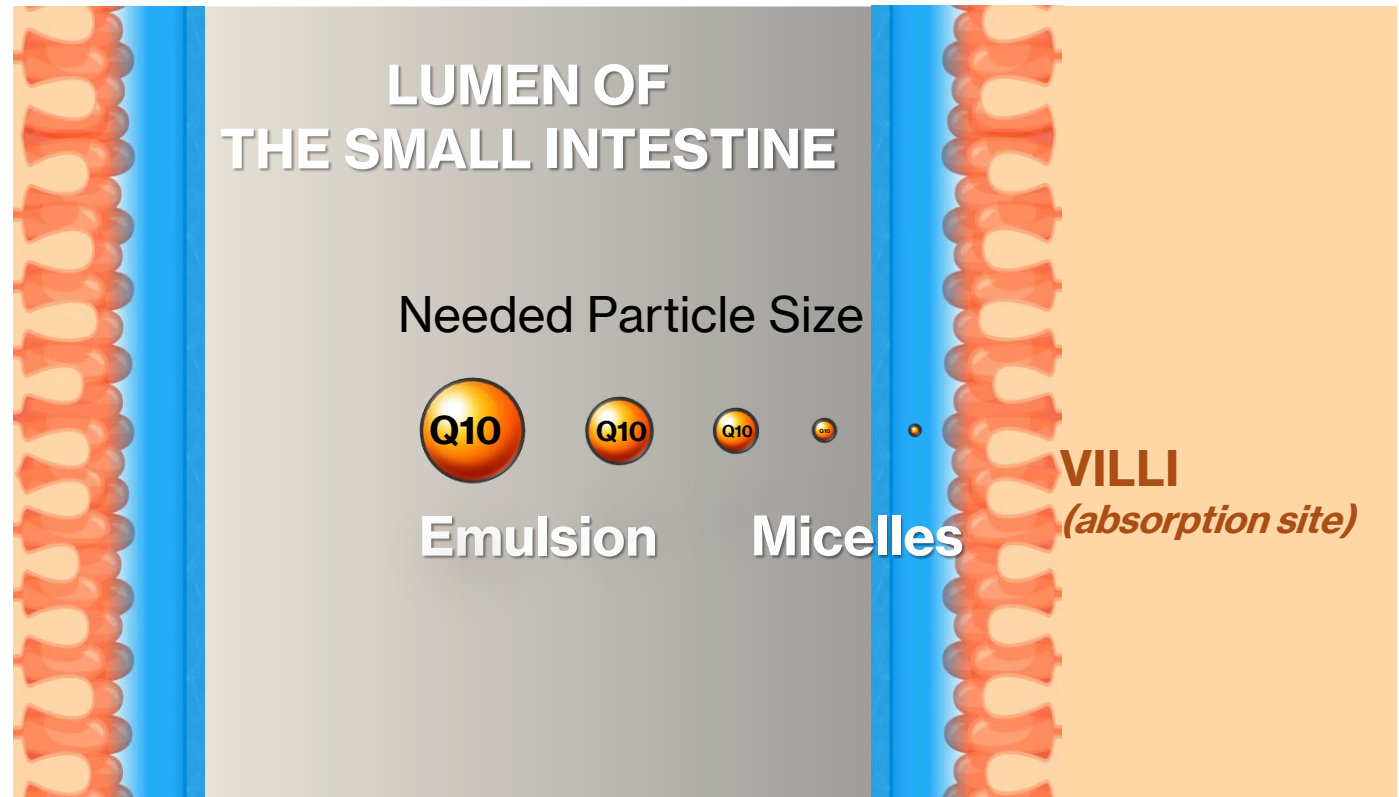




Micell Q10 Passes **Unstirred Water Layer**



UWL (Unstirred Water Layer)

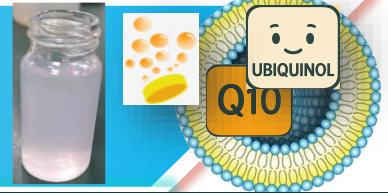


Q10 vs. Ubiquinol Absorption in Humans

Based on bioavailability studies across different formulations

Formulated | Liposomal | Water-Dispersible

Q10 & (Stabilized) **UBIQUINOL**



UBIQUINOL softgel (with meal)



Q10 softgel (with meal)



UBIQUINOL softgel



Q10 softgel



Q10 powder
(capsules)

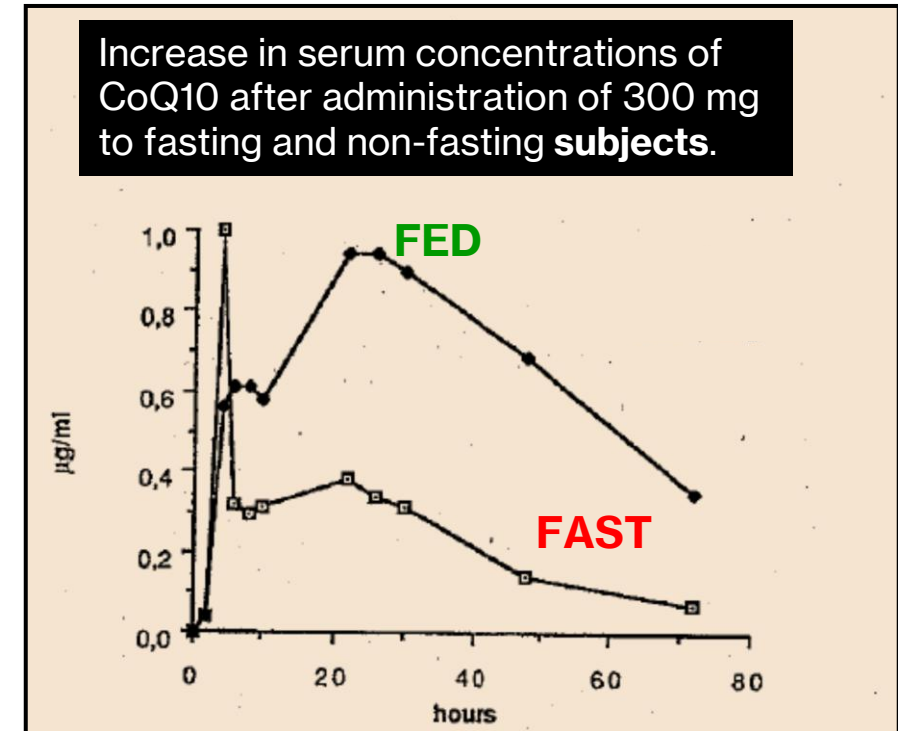
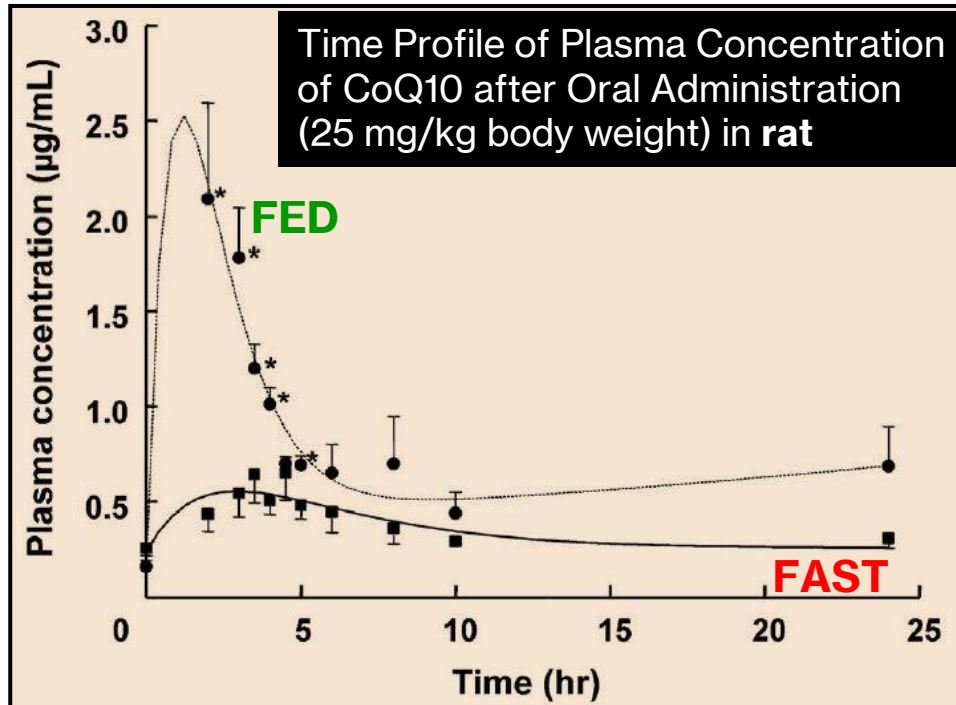


100mg/day CoQ10
(or 2x 50mg)

Absorption may vary by individual and formulation specifics.

The Importance of a Meal

Food, and the presence of lipids, greatly enhances the absorption of CoQ10 (*Bogentoft 1991*)



Solubilized Q10 Has Better Bioavailability than Ubiquinol

Procedure:

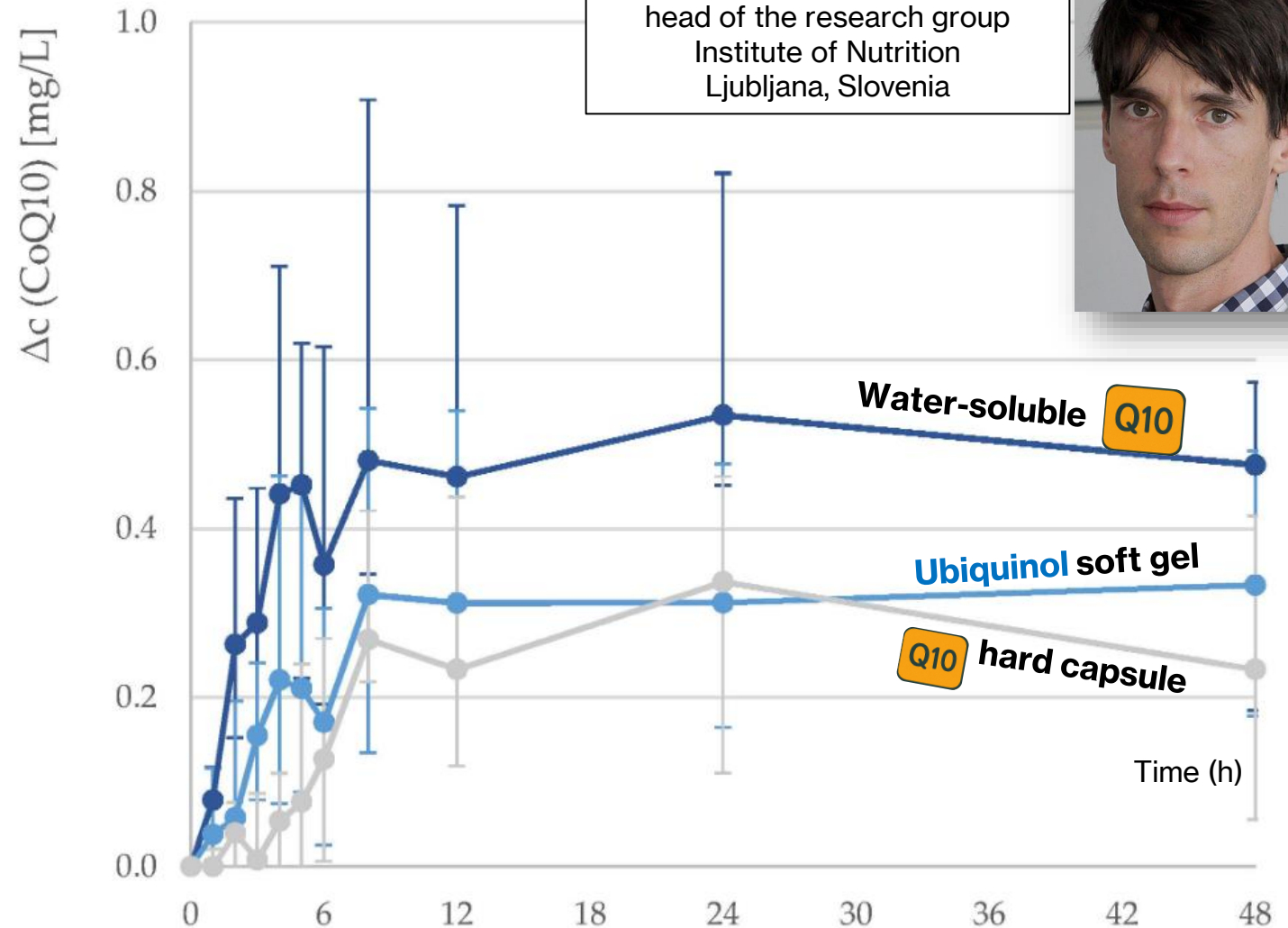
- Randomized, three-period, crossover bioavailability study
- 21 healthy older adults (aged 65–74)
- Single dose with a one-week washout period

Findings:

- Bioavailability of hydrosoluble Q10 is **2.4x higher** than crystalline Q10
- Ubiquinol soft capsules **showed no significant increase** in bioavailability vs crystalline Q10
- Q10 appeared in the blood **mostly as ubiquinol**, even when consumed as Q10

Prof. dr. Igor Pravst

head of the research group
Institute of Nutrition
Ljubljana, Slovenia

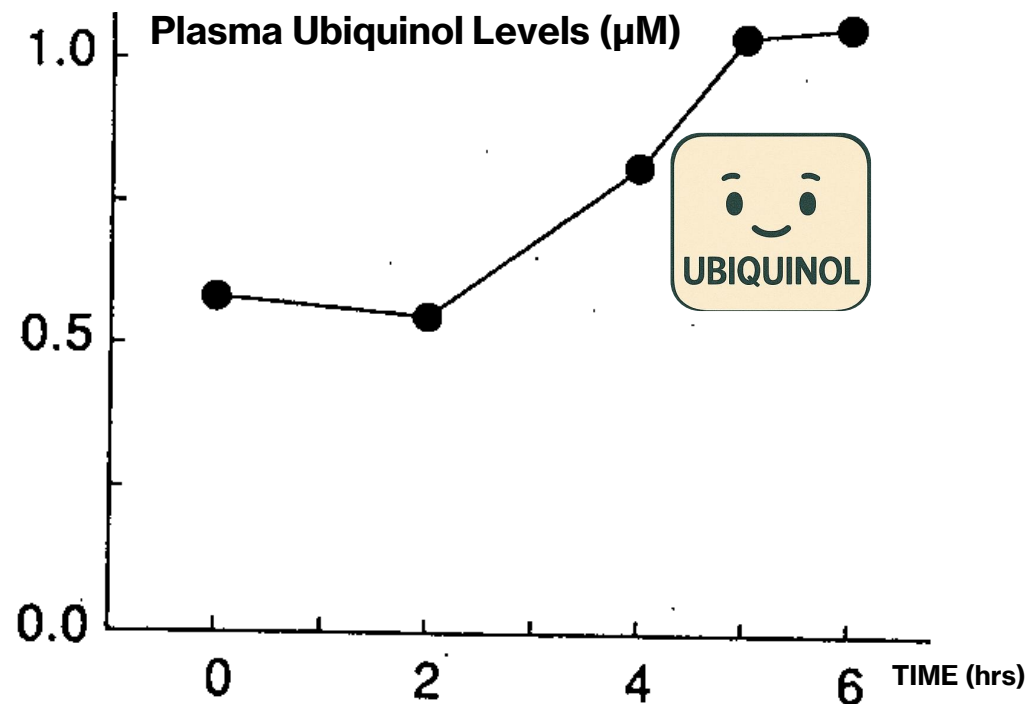


(Pravst 2020)

Q10 is quickly converted to ubiquinol in the body

Study Overview

A single 100 mg dose of Q10 powder was given orally (mixed in milk)
Blood levels were monitored over time

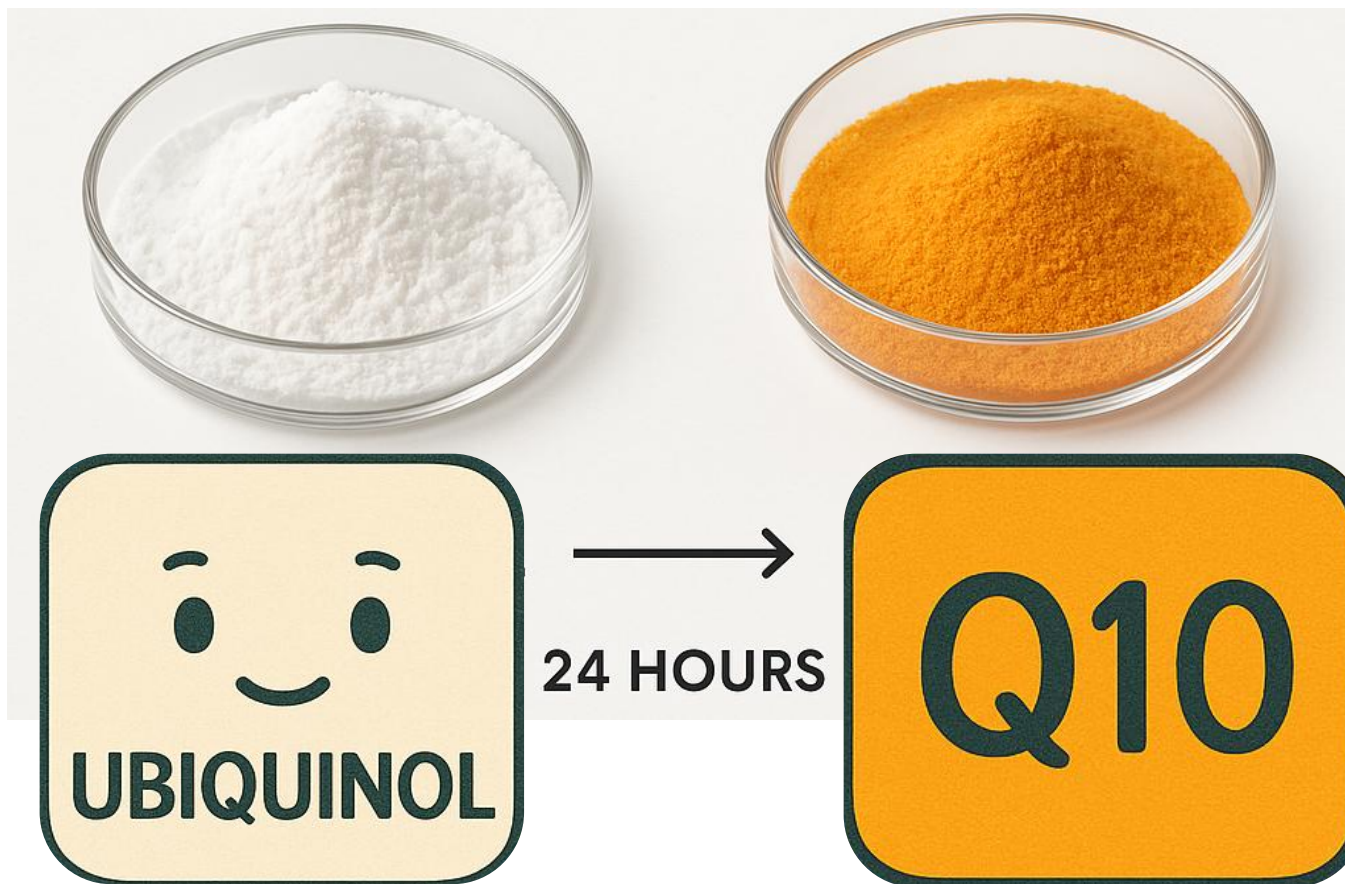


Conclusion

Q10 taken by mouth is effectively and rapidly converted to **ubiquinol** in the body

(Mohr 1992)

Bulk Ubiquinol Powder Converts to Q10 in 24 Hours



Stability Study of Bio-Max™ Ubiquinol 40

1. Open Stability

Conditions: 25°C, 60% RH

Findings: Remained stable over 21 days (no packaging)

2. Accelerated Stability

Conditions: 40°C, 75% RH

Packaging: Aluminum foil bags

Findings: Remained stable after 6 months

3. Long-Term Stability

Conditions: 25°C, 60% RH

Packaging: Aluminum foil bags

Findings: Stable across all batches for 18 months

1. Open Stability

Time (days)	Ubiquinol % (batch 1)	Ubiquinol % (batch 2)	Ubiquinol % (batch 3)
0	40,9	41,0	41,2
7	40,7	41,0	41,1
14	40,5	40,9	41,1
21	40,6	40,7	40,9

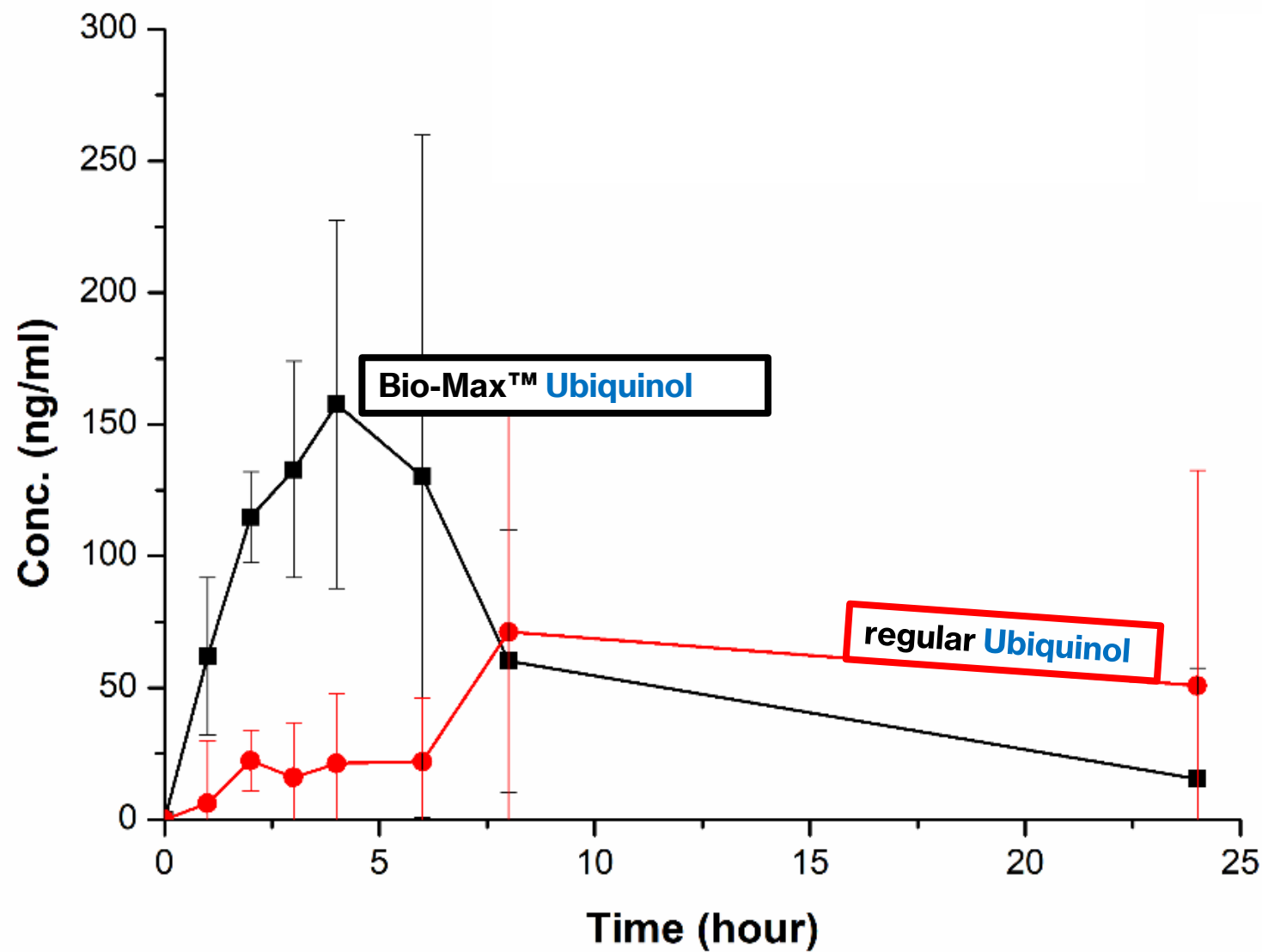
2. Accelerated Stability

Time (months)	Ubiquinol % (batch 1)	Ubiquinol % (batch 2)	Ubiquinol % (batch 3)
0	41,5	41,2	41,7
1	41,6	40,8	41,6
2	40,7	40,4	41,0
3	40,7	40,4	40,8
6	41,1	40,4	40,9

3. Long-Term Stability

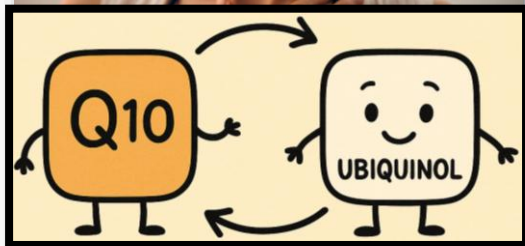
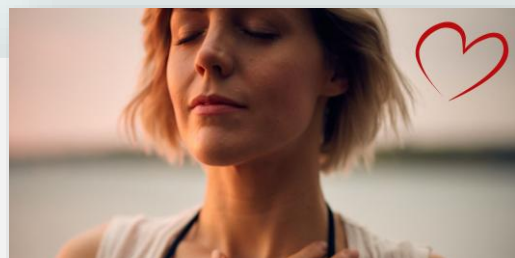
Time (months)	Ubiquinol % (batch 1)	Ubiquinol % (batch 2)	Ubiquinol % (batch 3)
0	41,1	40,6	41,7
3	41,0	40,4	41,1
6	40,7	40,0	40,7
9	40,5	40,0	40,8
12	40,4	40,2	40,6
18	40,5	40,2	40,7

Bio-Max™ Ubiquinol: Higher Plasma Levels



CoQ10 & Ubiquinol Product Portfolio

Product	Form/Type	Strength/ Concentration	Key Features
Coenzyme Q10 USP/EP/JP 	Bulk (Powder)	–	Pharma-grade, raw material
I-Biomax™ CoQ10 	Water-Soluble Powder	10% / 40%	For liquids/functional foods
Lipo-Max™ Liposomal CoQ10 	Liposomal Powder	20% / 50%	Enhanced absorption, stability, proven delivery system
Bio-Max™ Ubiquinol 	Stabilized Reduced Form	40%	Higher bioavailability, improved stability. Perfect for capsules, hardcaps, and powder blends



Conclusion

Core Function

Supports energy production & antioxidant defense

Age & Deficiency

Natural Q10 declines with age; deficiency is common

Proven Benefits

Backed by science, delivers multiple health effects

Complete Offering

Broadest CoQ10 & Ubiquinol portfolio

A photograph of two hikers ascending a grassy mountain trail. The hiker in the foreground is a woman with long brown hair, wearing sunglasses, a black long-sleeved shirt, black leggings, and a large red and black backpack. She is using a silver trekking pole. The second hiker is further up the trail, wearing a blue shirt and dark pants, also using a trekking pole. The background features rolling green hills and distant blue mountains under a bright sky with scattered white clouds. A large, bold, white text overlay with a slight drop shadow reads "THANK YOU FOR YOUR ATTENTION".

THANK YOU FOR YOUR ATTENTION

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