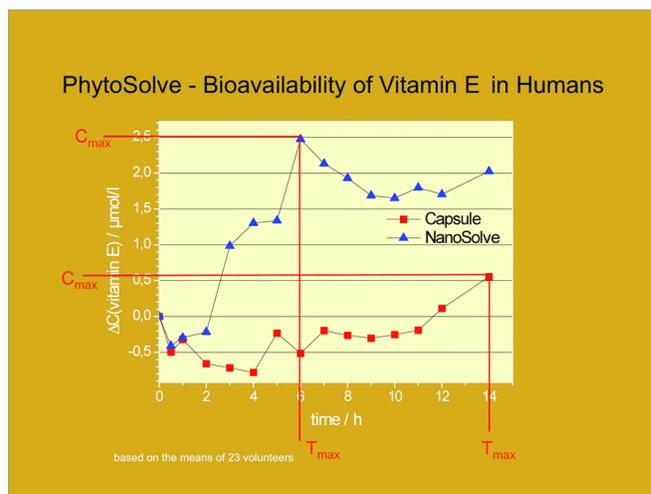
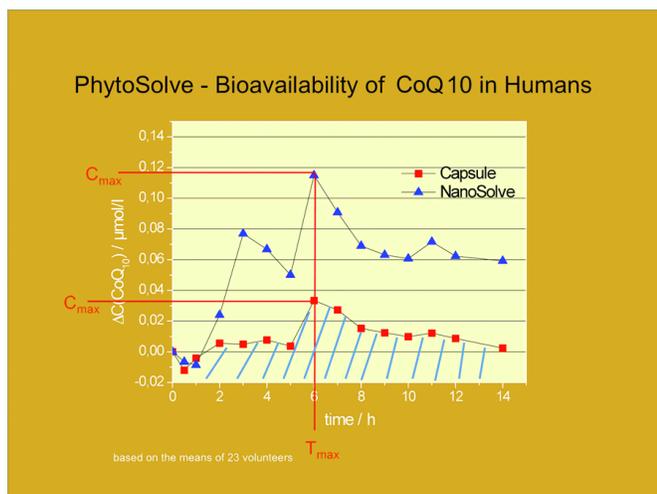


# PhytoSolve® (Phospholipid-based Delivery System)



The PhytoSolve® technology has been shown to increase the bioavailability of lipophilic active ingredients as nutritional supplements. The bioavailability of Coenzyme Q10 and Vitamin E increased when consumed in a PhytoSolve® delivery system vs. a hard gelatin capsule containing the pure material used as reference standard.

Twenty-four volunteers (12 men and 12 women) were randomly assigned into two treatment groups. One group received PhytoSolve® with CoQ10 and Vitamin E, the other group received the pure reference products CoQ10 and Vitamin E in capsules. Both groups received the same oral dose of each test nutrient: 100 mg of CoQ10 and 120 mg of tocopherol (Vitamin E) equivalents.

The test subjects received their respective products and their blood levels were monitored over a 14 hour period. The test samples were administered after an overnight fast. Blood levels of CoQ10 and Vitamin E were evaluated at time zero (just prior to administration of test samples) and hourly for 14 hours. Standardized meals and snacks were administered periodically post-dosing.

CoQ10 levels peaked in the pure material group at six hours and returned to near baseline levels at the end of the 14 hour test period. In contrast, the group consuming the CoQ10 in the PhytoSolve® delivery system showed a two-peak pattern. The first occurred at three hours followed by a second peak at six hours. At the end of the 14 hour period, blood levels of CoQ10 remained significantly above the baseline level. During the test period, the subjects who received the CoQ10 containing PhytoSolve® showed significantly higher CoQ10 blood levels. The data indicates that there is a fourfold increase in bioavailability (area-under-the-curve, AUC) when CoQ10 is delivered in a PhytoSolve® delivery system.

For Vitamin E, the results are even better. The data indicates that there is a 10-fold increase in bioavailability (AUC) when Vitamin E is delivered in a PhytoSolve® delivery system.

The PhytoSolve® delivery systems were well tolerated by the volunteers and offer an alternative to traditional delivery methods for nutritional ingredients with an increase in bioavailability.