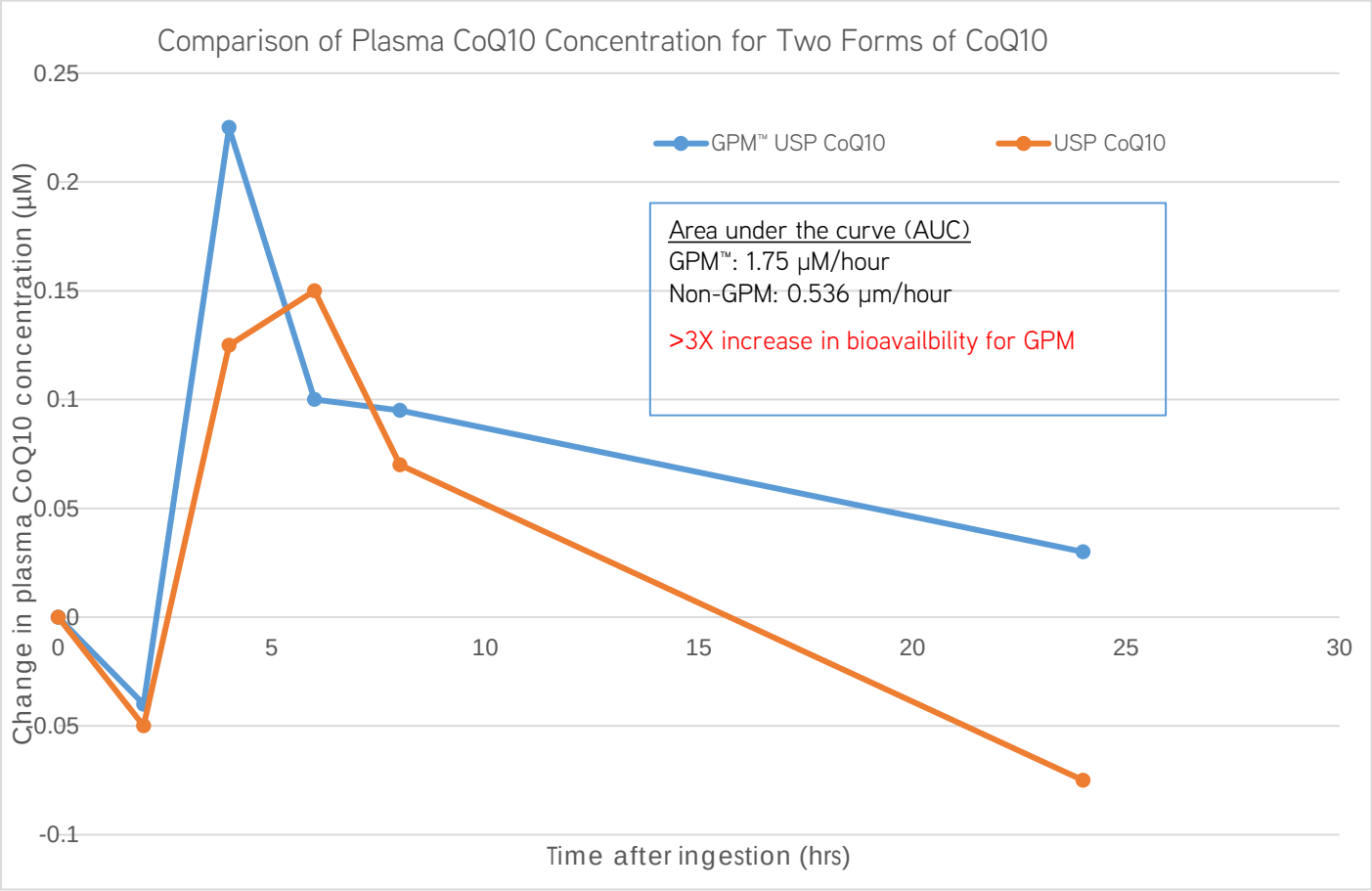
GPM™ AND USP COENZYME Q10
COMPARATIVE HUMAN BIOAVAILABILITY

To compare GPM™ Fermented Coenzyme Q10 to non-fermented Coenzyme Q10, a crossover study was conducted with eighteen healthy subjects, 9 males and 9 females, aged 19-53 years old. After an overnight fast and a baseline blood measurement, each subject blindly and in a random order ingested either USP Coenzyme Q10 or a GPM™ Fermented Coenzyme Q10. Both were supplied in 3 capsules totaling 100 mg of Coenzyme Q10. Consecutive blood samples were taken at 2, 4, 6, 8 and 24 hours later. The subjects returned one week later to consume the other form and the process was repeated.

Blood samples were analyzed using HPLC with UV/Vis detection and Coenzyme CoQ10 concentration was determined in micromolar (um) units from a standard curve. A graph of the average difference in plasma CoQ10 from the baseline vs. time is shown for the two forms in the accompanying figure.



GPM™ Fermented CoQ10 provides a greater change in plasma CoQ10 levels than non-GPM at 4 and 8 hours (80 and 36% respectively). At 6 hours non-GPM CoQ10 levels are 50% higher than GPM. GPM™ CoQ10 provides the greatest increase in plasma CoQ10 and this maximum occurs earlier than with non-GPM (4 vs 6 hours). The GPM™ CoQ10 had levels above baseline for the 24 hours of the study, whereas non-GPM levels went below baseline in approximately 16 hours.

The area under the curve (AUC) was evaluated to determine bioavailability, the greater the area, the greater the bioavailability. Using the difference from baseline, GPM™ had an AUC of 1.75 µM/hour and non-GPM is 0.536 µM/hour, over a 3x increase in bioavailability.

The testing information (the "Testing Information") has been gratuitously provided by Pharmachem Innovations. The Testing Information is based on many factors beyond Pharmachem's control, including but not limited to, the conditions prevailing when the testing was conducted, and in some cases, is based on data generated with development samples of the Active Ingredient. Although it is intended to be accurate, PHARMACHEM DISCLAIMS ANY AND ALL LIABILITY, EITHER EXPRESS OR IMPLIED. The Testing Information is confidential or proprietary to Pharmachem, and may not, except as provided below, be disclosed to any third party. You may not make commercial use of the Testing Information or make claims with respect to your products based the Testing Information, without the written agreement with Pharmachem covering such use.