

Dietary Supplement Laboratory Quality Assurance Program Consortium

Request for participation – Exercise 6 Now Open

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Dear Colleagues,

Thank you for your interest and/or past participation in NIST Quality Assurance Programs (QAPs). A call for participants in Exercise 6 of the Dietary Supplement Laboratory Quality Assurance Program (DSQAP) Consortium is now open. DSQAP is designed to assist laboratories in the development and validation of new analytical methods, in improving the quality of their analytical measurements, and in supporting compliance with federal regulations enforced by the US FDA, USDA, and other international bodies. Exercise 6 will offer opportunities for participants to measure mass fractions of nutritional elements, tocopherols, melatonin, and phytochemicals in dietary supplement ingredients and finished products. Laboratories may elect to participate in some or all studies (e.g., only nutritional elements and tocopherols) or report only selected analytes (e.g., copper and zinc, but not manganese and selenium), as applicable to the work done in their laboratories.

Participation in DSQAP is free of charge with the support of NIH Office of Dietary Supplements (ODS), although participants will be required to pay for the cost of sample shipment by providing NIST with a shipping account number using UPS, FedEx (including TNT), or DHL. International participants must provide an import shipping account number, if applicable. Participants are responsible for all shipping charges incurred, including those that may result from shipments being returned to NIST because of customs clearance issues. In no cases are participants paid to participate in DSQAP.

DSQAP Consortium membership is required to participate in Exercise 6. Instructions for signing up for new and existing NIST QAP participants are attached. Registration will open on August 24, 2026 and will close on October 9, 2026. Samples will be distributed late October/early November 2026.

We hope that within this exercise you will find studies that are of interest and use to your laboratory. Future DSQAP studies may address additional areas such as authenticity, challenging analytes/matrices, emerging concerns, and as needs are identified by Consortium members. If you have any suggestions for studies or would like more information regarding DSQAP and other NIST QAPs, please send your request to QAPHUB@nist.gov or visit https://qa-hub.nist.gov.

Please let us know if you have questions. We look forward to your participation in this and future DSQAP exercises.

Best regards,
DSQAP Team

Scan to complete the DSQAP Consortium Letter of Interest.

Scan for more information on DSQAP.

Scan to navigate to the QAP HUB Webpage.

Dietary Supplement Laboratory Quality Assurance Program (DSQAP)

Exercise 6 – Studies

Nutritional Elements in Formulas

Purpose

Copper, manganese, selenium, and zinc are essential minerals that are required for the human body to function properly. These nutrients are found in dietary supplements in single- or multi-ingredient formulations. Deficiencies or excess consumption of these minerals can lead to potential health risks. Consumers expect labeling information to be accurate on dietary supplement products. Therefore, the testing of these minerals in supplements can help ensure accurate product labeling as well as compliance with the US FDA regulations.

Rationale

This study will be used by NIST to determine any community-wide analytical challenges and support improvement of quantitative measurements through testing of two soy-based products. This study will also assist Consortium members with evaluating analytical challenges associated with nutritional elements measurements in differing matrices.

Design

Samples	Analytes
Soy Milk and Soy Formula	Copper, Manganese, Selenium, and Zinc

Tocopherols in Finished Products

Purpose

Vitamin E is an essential antioxidant that shields cells from free radical damage while supporting cell signaling, gene expression, and immune function. Although α-tocopherol is the most clinically recognized vitamer, β-, γ-, and δ-tocopherol also contribute to overall vitamin E content. Chromatographic separation and quantitation of these tocopherols present inherent analytical challenges, particularly the baseline resolution of the structural isomers β- and γ-tocopherol. Precise determination of all four vitamers is critical for evaluating dietary intake, bioactivity, and related health benefits.

Rationale

This study is designed to address the analytical complexities of quantifying tocopherols in oil and liquid matrices. Participation enables laboratories to evaluate their within- and between-laboratory measurement precision. Collected data will help NIST identify industry-wide discrepancies and prioritize appropriate reference materials and educational outreach.

Design

Samples	Analytes
Vegetable Oil and Soy Milk	α-tocopherol, β-tocopherol, γ-tocopherol, and δ-tocopherol

Dietary Supplement Laboratory Quality Assurance Program (DSQAP)

Exercise 6 – Studies (continued)

Melatonin in Supplements

Purpose

Melatonin is an endogenous hormone that regulates circadian rhythms and the sleep-wake cycle. Its popularity as a dietary supplement has grown significantly to address sleep onset latency and circadian disruptions. However, the wide range in labeled melatonin concentrations, combined with increasingly complex delivery matrices, presents substantial analytical challenges. Accurate quantitation of melatonin in dietary supplements is essential to ensure product quality, support method standardization for clinical health investigations, and protect consumer safety.

Rationale

This study assesses potential analytical challenges in measuring melatonin within dietary supplement tablets with varying levels of complexity. Participation enables laboratories to evaluate their in-house testing methods and within- and between-laboratory measurement precision. Results from this study will allow NIST to identify community-wide discrepancies and guide future reference material development and educational outreach.

Design

Samples	Analytes
Melatonin Tablet A and Melatonin Tablet B	Melatonin

Ashwagandha in Gummies

Purpose

Ashwagandha (*Withania somnifera*) is widely utilized in traditional medicine and continues to grow in popularity as a dietary supplement. In addition to high alkaloid content, ashwagandha contains withanolides which are naturally occurring steroidal lactones credited with cognitive, anti-inflammatory, and immunomodulatory benefits. The increasing prevalence of complex delivery forms, such as gummy matrices, introduces significant analytical challenges in achieving accurate and precise quantitation of these target marker compounds.

Rationale

This study evaluates the analytical challenges associated with quantifying ashwagandha marker compounds within complex matrices, specifically gummies. By participating in this DSQAP exercise, laboratories can assess their internal method performance for measuring withanolides in these challenging formulations. NIST will use the compiled results to identify industry-wide analytical challenges and guide the development of reference materials and educational resources.

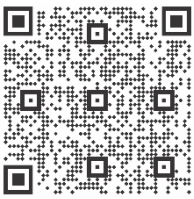
Design

Samples	Analytes
Ashwagandha Gummy and Ashwagandha Extract	Withanoside IV, Withanoside V, Withanolide A, Withanolide B, and Withaferin A

DSQAP Exercise 6 Registration

Log into your account https://qa-hub.nist.gov and click on *Enroll to upcoming exercises* in the top right corner.

If you need help with enrollment or creating an account on HUB, please find instructions at https://www.nist.gov/document/qaphub-registration-instructions or email us at QAPHUB@nist.gov



Scan QR code to navigate to the QAP Registration Instructions

Scan QR code to navigate to the QAP HUB Webpage.

