

OMB Control #0693-0033

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NIST Generic Clearance for Program Evaluation Data Collections

NIST SRM1950 Customer Feedback Survey

FOUR STANDARD SURVEY QUESTIONS

1. Explain who will be surveyed and why the group is appropriate to survey.

A survey was developed for existing and prospective customers of SRM1950 Metabolites in Frozen Human Plasma, which is provided by the Chemical Sciences Division (CSD) of the Material Measurements Laboratory (MML) at the National Institute of Standards and Technology (NIST).

SRM1950 was the first reference material developed specifically for metabolomics research. This SRM represents 'normal' human plasma and was obtained from 100 individuals. This SRM was designed to apply broadly to the field, not toward specific applications. It is intended primarily for validation of methods for determining metabolites such as fatty acids, electrolytes, vitamins, hormones, and amino acids in human plasma and similar materials. This SRM can also be used for comparison of measurement technologies used in metabolomic studies and for quality assurance when assigning values to in-house reference materials. SRM1950 was first made available in 2011 and sells an average of 285 units/year, which is within the top 15 SRMs for sales in FY21. While the average units sold per year for SRM1950 is known, this information is not sufficient to determine when, what, and to what extent the SRM updates should take place. SRM1950 is value assigned for ninety components, mainly based on NIST Reference Measurement Procedure measurements and other higher-order method measurements at NIST. Given the large number of assigned values, it is not known which values are utilized by customers. In addition, multiple publications by NIST authors and others outside of NIST have demonstrated that SRM1950 has been used by metabolomic/lipidomic communities as a common research material independent of its assigned values.

With an approximate 4-year supply of SRM1950 remaining, this project aims to engage the user community through an online customer and stakeholder survey to determine whether a renewal material with many certified values similar to SRM1950 is required by customers or if current or new materials more similar to recently introduced metabolomics RMs would fulfill customer needs for a common harmonization material. Organized customer feedback is necessary to ascertain which of these values are most useful to customers and also what types of additional materials or values are needed. The survey will target existing SRM1950 users, as well as prospective users from professional metabolomic/lipidomic associations such as Metabolomics Quality Assurance and Quality Control Consortium (mQACC), the Metabolomics Society, and the Metabolomics Association of North America. This information will allow CSD to focus future renewal and production efforts more appropriately.

The survey has two intentions: 1) to identify assigned values that are of most importance to customers of SRM1950; and 2) to monitor and support the emerging measurement needs of the metabolomic/lipidomic communities with the goal of expanding the potential research areas and hence impact of the SRM program.

2. Explain how the survey was developed including consultation with interested parties, pre-testing, and responses to suggestions for improvement.

The survey was developed by a user-centered researcher in the Visualization and Usability Group (VUG) of the Information Access Division (IAD) in the Information Technology Laboratory (ITL) at NIST. VUG has in-depth expertise in contextual interviews, survey and survey development and deployment, experimental design, and usability evaluation. VUG has developed and fielded stakeholder surveys in many domains including Public Safety Communications, Forensics, and Cybersecurity and Privacy. Therefore, the VUG researcher is well qualified to construct a survey to meet the intentions described in Question #1.

The survey has gone through rigorous review process including CSD staff members with in-depth knowledge and expertise in SRM1950, a survey expert, and a statistics expert to ensure the language and questions were accurate and appropriate. Cognitive walkthroughs and pilot testing were also conducted with individuals who are representative of the target population in metabolomic/lipidomic communities to receive feedback on the survey's timing, usability, and question comprehension. All review feedback was incorporated into the final instrument.

3. Explain how the survey will be conducted, how customers will be sampled if fewer than all customers will be surveyed, expected response rate, and actions your agency plans to take to improve the response rate.

An email requesting feedback via the survey (see attached email invitation) will be sent to customers who have purchased SRM1950 (for a total of approximately 460 and to prospective users from professional metabolomic/lipidomic associations such as Metabolomics Quality Assurance and Quality Control Consortium (mQACC), the Metabolomics Society, and the Metabolomics Association of North America (for an estimated total of 1000). A reminder email (see attached email reminder) will be sent two weeks after the first invitation email to improve the response rate.

If email recipients choose to respond, they will follow the survey link in the email to the survey instructions and survey (see attached Collection Instrument and Information sheet). The first survey question asks about respondents' status and branches them to appropriate survey versions, regarding whether they are: (A) existing SRM1950 users (including current and past users) (see attached Collection Instrument, version A); or (B) prospective users who might be interested in purchasing SRM1950 in the future (see attached Collection Instrument, version B); or (C) not current users, nor interested in purchasing SRM1950 in the future (see attached Collection Instrument, version C); or (D) resellers/distributors of SRM1950 (see attached Collection Instrument, version D).

The survey will take about 10 minutes to complete.

We anticipate a 30 % response rate to the survey to have about 440 respondents completing the survey.

The expected burden hours are thus calculated: 440 respondents with 10 minutes per response add up to about 73 burden hours.

4. Describe how the results of the survey will be analyzed and used to generalize the results to the entire customer population.

The survey will be conducted through a commercially available web interface (e.g., Qualtrics.com), and the responses will be collected into a database. The project team will have access to the database containing the responses. The researchers will conduct descriptive statistics on the quantitative data. Since the collection instrument also contains some open-ended questions, a wide-range of responses may be received that will not be easily generalized to the participant population. In addition, the results from the survey are intended to guide future SRM development activities, and therefore will not be formally reported. The project team will review the individual responses to assess:

- 1) the approximate percentage of respondents indicating that current assigned values of SRM1950 are/are not of value to their work. If, for example, the majority of SRM1950 customers indicate that the value for Valine is not of importance to their work, we may consider Valine to be unnecessary on future SRM1950 renewal.
- 2) if there are any predominant trends in the responses to the open-ended questions.