



## Association of Biomolecular Resource Facilities

*Business Office:*

2019 Galisteo Street, Bldg. I, Santa Fe, NM 87505

Tel: 505-983-8102 ♦ Fax: 505-989-1073 ♦ Email: [abrf@abrf.org](mailto:abrf@abrf.org)

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### **Re: PRG 2006 Quantitative Proteomics Study**

Dear Fellow ABRF Member,

September 7, 2005

A major challenge for core facilities today is determining quantitative protein differences across complex biological samples. Knowing how protein amounts differ between samples is crucial for a large variety of experiments, and determining these differences is commonly requested in many core facilities. Although there are many techniques in the literature for determining relative and absolute protein quantitation, most if not all are non-routine and can be very challenging to implement effectively. In addition, it is unknown how accurate these techniques are in practice across multiple labs possessing various levels of expertise. The Proteomics Research Group (PRG) of the Association of Biomolecular Resource Facilities (ABRF) would like you to participate in a collaborative study focusing on evaluating different techniques for determining abundance differences of several unknown proteins across two samples.

The primary goal of this study is to give each laboratory an opportunity to evaluate its capabilities and approaches with regard to:

- Determining quantitative protein differences across two samples
- Effects of various quantitation techniques on your ability to identify proteins
- The ability of software to determine quantitative differences across samples or help analyze data from quantitative experiments.

The PRG also plans to compile the data in a way that will facilitate comparison of the strategies used and aid in development of optimized protocols for these techniques.

Laboratories requesting samples will receive two mixtures (A & B) each containing up to ten proteins. Ratios of proteins between samples will vary up to 1:100. Proteins will be present in amounts suitable for the use of mass spectrometric and/or 2D gel-methods to determine the relative abundance ratios of proteins across the two mixtures. The PRG will request that participants identify all available proteins and return relative quantitative ratios of each protein. Participants will also complete an anonymous web based questionnaire summarizing their results, methods and instruments used in the analysis.

This year's study is again open to both ABRF members and academic non-members. However, the total number of samples is limited, and priority will be given to ABRF members. Non-members are encouraged to join the ABRF (For more information go to <http://www.abrf.org>).

The PRG anticipates distributing the samples in October 2005, and requests that the resulting data be returned by the end of November so that sufficient time will be available to tabulate the results and to present them at the 2006 ABRF Meeting (February 11-14, 2006 in Long Beach, CA). Due to increased security concerns, additional information about the study sample will be available if needed to expedite the arrival of your sample. If this information is needed please

send a message to the email address noted in the next paragraph and include “more info” in the subject line.

Requests for samples must be submitted by e-mail to [prg\\_prg06@yahoo.com](mailto:prg_prg06@yahoo.com) prior to October 12, 2005. Please include the words “sample request” in the subject line and provide contact name, affiliation and complete mailing address in the body of the message. Because of the significant effort that goes into the preparation of the samples by the PRG, the research group asks that samples only be requested if there is a reasonable probability you will be able to return data by the deadline. As in the past, result submissions will be coded to ensure anonymity of the participating laboratories. A summary of the results of this study will be available at the ABRF2006 meeting and will be subsequently posted on the ABRF website.

We thank you for your support of the ABRF and we look forward to your participation in this study.

Sincerely,

The ABRF Proteomics Research Group

Arnold M. Falick  
Jeffrey A Kowalak  
William Lane (EB liaison)  
Kathryn Lilley (ad hoc)  
Brett Phinney  
Christoph Turck (chair)  
Susan Weintraub  
Ewa Witkowska  
Nathan Yates