



Press Release

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HUPO Announces Results of its Test Samples Study.

Montreal, QC, Canada, May 17th 2009 – In its editorial of September 8th, 2005, Nature challenged the Human Proteome Organisation (HUPO) to establish standards in proteomics. At the time, the field of proteomics was receiving criticism for what many called unreliability and/or lack of reproducibility. In a further editorial (April 24th 2008), Nature also discussed how HUPO could oversee the application of these standards to a global Human Proteome Project.

HUPO has now published (Nature Methods) the results of a three-year quality control study that has identified bottlenecks in proteomics, along with feasible solutions. This report represents the first time publicly identified laboratories have used test samples in order to assess issues of reproducibility and sampling in proteomics.

Twenty-seven labs worldwide were sent a mixture of unknown proteins in equal concentrations, and asked to analyse this sample using their usual techniques. Only seven of the 27 participating labs were 100% successful in the first part of the study, which dealt with protein identification. The labs were also subjected to a subsequent sampling and reporting exercise with peptide of very similar molecular weights. Only one of the 27 labs was successful in this attempt.

With guidance by the HUPO working group, however, all labs achieved the goal set in the first part of the study. On-going work is still needed for them to succeed in the second part. A crucial role for HUPO in education and training was therefore demonstrated. The study also showed the benefits of a centralised analysis of data collected from all labs, pointing to the importance of public data repositories to accumulate raw data from all labs doing proteomics.

A goal of the proteomics community is to characterise all proteins of the protein-coding genome of humans. Currently, 8000 of the 20,000 or so protein-coding genes have no evidence for a protein and a further 5000 have only weak evidence.

It is expected that the cause, diagnosis and therapy for many human diseases will lie in this unexplored part of the protein-coding genome.

About HUPO

HUPO (www.hupo.org) promotes the development and awareness of proteomics research and advocates on behalf of proteomics researchers throughout the world. It has benefited from substantial contributions of time and energy from members of the HUPO Board of Directors, research institutions and pharmaceutical companies around the globe.

The HUPO Board of Directors currently has 48 members from 19 countries, all of whom are renowned proteomics researchers from the academic and industrial sectors. HUPO's headquarters have been located at the McGill University and Génome Québec Innovation Centre in Montréal, since December 2004. HUPO currently has about 1000 members from 40 countries.

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