

2008 Report on the Plasma Proteome Project to the HUPO Initiatives Committee and HUPO Council (co-chairs, Ruedi Aebersold, Gil Omenn, Young-Ki Paik, 15 July 2008)

Major activities:

1. At the Seoul, Korea, HUPO 6th World Congress of Proteomics, Ruedi Aebersold, Gil Omenn, and Young-Ki Paik were reappointed co-chairs of the HUPO Plasma Proteome Project. The PPP held a very well-attended Workshop on 6 October, 2007, outlining the plans for advanced technology platforms, large-scale datasets, and collaboration with proteome studies of other initiatives and laboratories globally.

Outline of the Next Phase for the PPP

- Quantitation and subproteomes (PTMs) with new methods and advanced instruments
- HUPO Plasma Proteome Databases, with robust bioinformatics analyses and distributed file sharing system (Tranche)
- Convergence of HUPO organ-based and disease-related proteome studies to a common pathway in the plasma proteome

Invitation to participate in the PPP Next Phase:

- Criteria for labs: substantial scope of funded work, advanced state of technology platforms, commitment to contribute datasets in timely fashion for collaborative analyses, and interest in active participation in PPP workshops and other forums and in generating significant publications.
- Indicate your willingness to organize cross-initiative collaborative analyses if you are in the leadership of a HUPO initiative.
- Attend HUPO PPP Workshops in Seoul, Amsterdam
- Contact Gil Omenn: gomenn@umich.edu.

Program for the PPP Workshop in Seoul, Oct 2007

20:00-20:45 Panel: Advances in Technology Platforms and Analytical Strategies for Quantitation, Identification of PTMs, Throughput

Aebersold, Mallick, Hunter, Jensen, Hochstrasser, Smith, Zeng

20:45-21:30 Panel: Informatics and Databases for the Plasma Proteome

Martens, Deutsch, Beavis, Kapp, Nesvizhskii, Pandey

21:30-22:00 Panel on Plasma as Final Common Pathway for Biomarkers Emerging from Organ and Disease Proteome Initiatives

John Bergeron, moderator; He, Ping, Schnitzer, Yamamoto

2. Omenn spoke on “International Collaboration in Proteomics and Informatics” at The Bibliotheca Alexandria, Alexandria, Egypt, 7 November, 2007.

3. The PPP was represented by Eric Deutsch at the 2008 January Barbados conference hosted by John Bergeron. Omenn participated in the development of the HUPO Proteome Project proposal.

4. The ProteomExchange scheme was created to link EBI/PRIDE, as a repository for well-annotated original datasets and analyses; Tranche/Proteome Commons.org for global file distribution; and ISB/PeptideAtlas, where all the plasma proteome datasets will be re-analyzed with the TransProteomicPipeline from primary data and combined into a resource for general use. See ProteomExchange document attached.
5. The PPP had a prominent place on the program of the U.S. HUPO Annual Meeting in Bethesda 18 March 2008, including Deutsch's unveiling ProteomExchange.
6. The PPP has organized a Workshop for the HUPO 7th World Congress in Amsterdam, Sunday 9:30AM to Noon, 17 August, 2008. The ProteomExchange will be presented to the international HUPO community, and the pioneer contributors to this new phase of the PPP will present their findings and their experience with ProteomExchange.
7. Publications during 2007-2008 from the HUPO PPP

Omenn GS, Aebersold R, Paik YK. HUPO Plasma Proteome Project 2007 Workshop Report. *Mol Cell Proteomics* 2007; 12:2252-2253. PMID: 18070836.

Omenn GS. The HUPO Human Plasma Proteome Project. *Proteomics-Clin Appl.* 2007; 1(8):769-779.

Omenn GS, Ping P. The Future: Translation from Discovery to the Clinic – Roles of HUPO and Industry in Biomarker Discovery. In Van Eyk J, Dunn M (eds.) *Clinical Proteomics*, Weinheim: Wiley-VCH, 2008:595-613

Mathivanan S, ...Deutsch E, ...Omenn GS,...Paik YK, ... Pandya A. Human Proteinpedia enables sharing of human protein data. *Nat Biotechnol.* 2008; 26(2):164-167. (160 authors listed alphabetically, except for first and last authors) PMID: 18259167.

Zhang Q, Menon R, Deutsch EW, Pitteri SJ, Faca VM, Wang H, Newcomb LF, Depinho RA, Bardeesy N, Dinulescu D, Hung KE, Kucherlapati R, Jacks T, Politi K, Aebersold R, Omenn GS, States DJ, Hanash SM. A mouse plasma peptide atlas as a resource for disease proteomics. *Genome Biol* 2008; 9:R93. PMID: 18522751.

Jeong SK, Kwon M-S, Lee E-Y, Lee H-J, Cho SY, Kim H, Yoo JS, Gilbert S, Omenn GS, Aebersold R, Hanash S, Paik Y-K. BiomarkerDigger: a versatile disease proteome database and analysis platform for the identification of plasma cancer biomarkers. Submitted to *Proteomics*.

Yan W, Apweiler R, Balgley BM, Boontheung P, Cargile BJ, Cole S, Fang C, Gonzalez-Begne M, Griffin TJ, Hagen F, Hu S, Lee S, Malamud DO, Melvin JE, Menon R, Mueller M, Qiao R, Rhodus NL, Sevinsky JR, States D, Stephenson JL, Jr., Than S, Yates JR III, Yu W, Xie H, Xie Y-M, Omenn GS, Loo JA, Wong DT. Systematic comparison of the human saliva and plasma proteomes. Submitted to *Proteomics*.

Attach/Insert: ProteomExchange