

Meeting Minutes

International Biomarker Discovery Consortium

Antibody working group meeting

3:30 – 5:30 p.m., October 11, 2005

1. Eight people attended the antibody working group meeting, including Maxey Chung (NUS), Adam Clark (NCI), Ruihua Fang (FHCRC), Nikki P Lee (UHK), Young Woo Park (KRIBB), Amanda Paulovich (FHCRC), Qi-Hong Sun (BIRM), and Jau-Song Yu (CGU).
2. Each attendee introduced the existing antibody project or application. Qi-Hong Sun (BIRM) reported the progress of Antibody Bank of Human Liver Proteome Project. The Chinese human liver proteome project (HLPP) is at the pilot stage with 10% of the HLPP in the antibody bank. The aim is to have antibodies against 5000 liver proteins at year 2010 and to generate a HPLL database. The general approach is to use fractionated liver proteins, recombinant proteins and synthetic peptides as antigens for the generation of both monoclonal and polyclonal antibodies. The liver proteins used for development of monoclonal antibodies are sub-fractionated by differential centrifugation. Monoclonal antibodies against more than 100 liver proteins have been characterized and polyclonal antibodies against approximately 50 proteins have been generated, 1000 purified human proteins spotted on protein arrays are used for antigen identification. He also introduced the work flow of the Human Antibody Initiative (HAI) and Human Proteome Resource (HPR) project chaired by Dr. Uhlen (KTH). Young Woo Park (KRIBB) is working on the scFv antibodies, and Jau-Song Yu (CGU) is working on the polyclonal antibodies.
3. All attendees reported that the affinity reagents are absolutely critical in proteomics, and realized most commercial antibodies are expensive and not properly characterized. More than half may not be of sufficiently high quality. Adam Clark (NCI) introduced the new NCI initiative in clinical proteomics technologies including the establishment of reagent resources, and the NCI Proteomic Technologies Reagents Resource Workshop will be held December, 2005. NCI is interested in the best technology to generate specific antibodies at a reduced cost, and make sure these well-characterized reagents resources are open to support proteomic platforms, biomarker validation and application.
4. All attendees agreed that the list of existing antibodies with high specificity and characterization data should be exchanged within IBDC teams, and a committee

may be needed to collect and review the priority for antibody generation requested by different IBDC teams. The priority for antibody generation may be decided by the number of labs who request the antibody generation.

5. All attendees also discussed the technical issues including software for epitope prediction, multiple antigen peptide, cell-free protein expression system, protein arrays for antibody characterization, and antibody arrays with the 96-well format. A strategy of polyclonal antibodies for biomarker validation and monoclonal antibodies for biomarker application was proposed at the meeting.
6. Qi-Hong Sun (BIRM) and Amanda Paulovich (FHCRC) will work as the chair and co-chair for the antibody working group meeting and maintain communication for the antibody working group.

Reported by Qi-Hong Sun M.D., Ph.D.

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