world wide Protein Data Bank Advisory Committee (wwPDBAC)
Report of September 7th 2007 Meeting
Princeton, New Jersey, U.S.A.

Chair: Stephen K. Burley (RCSB)

PDB Site Representatives: Angela M. Gronenborn (BMRB), Wayne A. Hendrickson (RCSB), Neil Isaacs (MSD), Rob Kaptein (MSD), Gerard J. Kleywegt (MSD), Brian Matthews (RCSB, excused), Gaetano Montelione (BMRB), Soichi Wakatsuki (PDBj), and Kei Yura (PDBj)

***Ex Officio* Community Stakeholder Representatives:** Edward N. Baker (IUCr), R. Andrew Byrd (ICMRBS), and Marin van Heel (Macromolecular EM)

wwPDB Site Leaders: Helen M. Berman (RCSB), Kim Henrick (MSD-EBI), John Markley (BMRB), and Haruki Nakamura (PDBj)

Funding Agency Representative: Ravi Basavappa (NIGMS), Graham Cameron (EMBL), Amanda Collis (BBSRC), Deborah Colson (Wellcome Trust), Christopher L. Greer (NSF), Roland Hirsch (DOE), Masako Kuroda (JST, excused), Keiichi Nagai (DCLS), and John Norvell (NIGMS)

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wwPDBAC Mission Statement

To help ensure that the Protein Data Bank is maintained for the public good as a secure, single, global archive for experimental structural biology data that is freely accessible in perpetuity.

Meeting Summary

The world wide Protein Data Bank Advisory Committee (wwPDBAC) to the leadership of the Research Collaboratory for Structural Bioinformatics (RCSB), the BioMagResBank (BMRB), the Macromolecular Structure Database (MSD-EBI), and the Protein Data Bank Japan (PDBj) met in Princeton, New Jersey, U.S.A. on September 7th 2007. The agenda included

(1) Responses to 2006 wwPDBAC Meeting Recommendations;
(2) Overview of Recent Progress;
(3) wwPDB Plans for 2007/2008;
(4) Long Term Funding/Stability; and
(5) Other Matters.

The Committee considered various issues and provides the following unanimous commentary and recommendations:

Responses to 2006 wwPDBAC Meeting Recommendations

Theoretical Models in the PDB

Recommendation:

• Fully implement the recommendations of "Berman report" without delay.

wwPDB Response:

• Completed October 2006.

Remediation Changes/Rollout Plans

Recommendations:

• Initiate individually supported rollout of the remediated PDB in mmCIF and XML formats to selected super users and software resource managers beginning no later than December 31st 2006.

• Conclude rollout of the remediated PDB in mmCIF and XML formats to all users no later than July 1st 2007.

• Provide access to PDB formatted files following the most current format.

wwPDB Response:

• Full public rollout (beta) April 2007; Remediated archive frozen and time stamped on ftp July 31, 2007.

Inclusion of SAXS Data in the PDB

Recommendations:

• Work with SAXS community to create appropriate representation of these data, and circulate progress reports to the Committee as appropriate.

wwPDB Response:

• In progress. wwPDBAC review deferred.

Four Character PDB ID Code

Recommendations:

• Expand the four character PDB ID Code before the number of depositions reaches 400,000.

wwPDB Response:

• Completed September 2007.

Definition of the Purview of the PDB

Recommendations:

• The RCSB, the MSD-EBI, the BMRB, and PDBj shall develop and present a formal recommendation to the wwPDBAC regarding the purview of the PDB at our September 2007 meeting in Princeton, N.J.

wwPDB Response:

• In progress. wwPDBAC review deferred.

Overview of Recent Progress

Commentary:

The four wwPDB member organizations are working well together, as evidenced by important achievements on many fronts of common interest. Integration of the BMRB into the umbrella organization is complete, adding an effective thought leader to the impressive founding trio. The Committee continues to be impressed by the high level of cohesion and the quality of wwPDB activities. Of particular significance was the long anticipated completion of the PDB archive remediation project, which the Committee applauds.

wwPDB Plans for 2007/2008

Commentary:

The Committee reviewed and endorsed plans for the wwPDB in 2007/2008, which included the following:

Standardization of the annotation rules and policies among wwPDB sites; and
Attribution of Digital Document Identifiers (DOIs) to all PDB entries.

Long Term Funding/Stability

Commentary:

The Committee took up the issue of long term funding/stability of wwPDB sites in a Funding Representatives Round Table Discussion on the afternoon of September 7th 2007. An account of this discussion will be prepared and circulated separately by the wwPDB leadership team.

Other Matters

Commentary:

A summary of recent revelations involving a small number of incorrect structures in the archive (<1%) was presented by the wwPDB leadership. Community response in the form of letters to prominent journals and to the PDB leadership has called for submission of associated experimental data (X-ray structure factors and/or NMR restraints) together with the atomic coordinates to allow for more comprehensive validation at the time of data deposition/release.

The Committee believes that it is incumbent on structure depositors, wwPDB sites, and journal editors to redouble their efforts to reduce the likelihood that incorrect three-dimensional structures of biological macromolecules enter either the PDB or the scientific literature. A series of recommendations follow, which should be implemented after a decent interval for public comment.

Recommendations:

• The wwPDB shall require deposition of structure factor amplitudes/intensities (for crystal structure depositions) and/or NMR restraints (for NMR structure depositions) in addition to atomic coordinates as a prerequisite for receiving a PDB ID.

• The wwPDB leadership shall inform the relevant journals of this new policy, and will suggest that *Instructions to the Authors* read as follows:

"For papers describing structures of biological macromolecules, atomic coordinates and the associated experimental data (structure factor amplitudes/intensities and/or NMR restraints) must be deposited at a member site of the Worldwide Protein Data Bank (www.wwpdb.org): RCSB PDB (www.pdb.org), MSD-EBI (www.ebi.ac.uk/msd), PDBj (www.pdbj.org), or BMRB (www.bmrb.wisc.edu). The PDB ID should be included in the manuscript. Authors must agree to release the atomic coordinates and the associated experimental data when the associated article is published. Questions relating to depositions should be sent to info@wwpdb.org."

• The RCSB, MSD-EBI, BMRB, and PDBj, working with community experts, will establish additional validation procedures for structures determined by either X-ray crystallography or NMR spectroscopy. The results of these validation calculations will be made available to depositors immediately after submission. Upon depositor request, the RCSB, MSD-EBI, BMRB, and PDBj shall make such structure validation reports available to designated scientific journal editors.

• The RCSB, MSD-EBI, BMRB, and PDBj shall further work together with community stakeholders and thought leaders to establish recommendations for additional experimental data deposition and release requirements where appropriate.