These tables are the in-house checklists used for the UW Model Repository at www.physiome.org

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | STANDARDS.5: VALIDATION TESTING: | Auth | 2nd | Note |
| Group 1: Identification and Description |  |  |  |
|   | Model Name and No: short and long descriptions complete |  |  |  |
|   | Code verified and runs correctly. See STANDARDS.4VERIF |  |  |  |
|   | Diagrams represent the key elements of the system |  |  |  |
|   | Reference to Publication describing the model |  |  |  |
|   | Context and Purpose of model defined |  |  |  |
| Group 2. Data for Validation testing. FIGURES and NOTES describe validation |  |  |  |
|   | Experimental data available, and described. Reproducible? |  |  |  |
|   | The data are defined, figures and parameter sets (All matched) |  |  |  |
|   | Data figures: Titles appropriate |  |  |  |
|   | Data figures: axes labeled with symbol, name and units |  |  |  |
|   | Figures use very short tab labels fitting topic. |  |  |  |
|   | Graphs use same colors and line types for same variable in every figure. |  |  |  |
|   | Ontology consistent in notation of .mod, Figures and Notes and Par sets |  |  |  |
|   | Notation consistent with diagrams, code, Website, publication |  |  |  |
|   | Parameters sets: Description and rationale for each set of data |  |  |  |
|   | Optimization re data or other model: Opt Choice, par set, Notes |  |  |  |
|   | Loops: purposes and settings; par set  |  |  |  |
|   |  |  |  |  |
| Group 3. Validation evaluation: |  |  |  |
|   | Initial and boundary conditions in accord with physiology? |  |  |  |
|   | List Data provided and fitted by model, and sources. |  |  |  |
|   | Balance checks. (Mass, charge, osmotic, energy) |  |  |  |
|   | RMS error and CV for all data sets. Different data sets comparable? |  |  |  |
|   | Show fits of data in Figures, and optimization results |  |  |  |
|   | Notes defining contents of each situation, figure or par set |  |  |  |
|   | Parameters estimated and evaluated against literature or other |  |  |  |
|   | Parameter correlations not near 1 |  |  |  |
|   | Parameters omitted from optimization? |  |  |  |
|   | Sensitivity functions. How to plot. Why useful. Notes. Use same colors. |  |  |  |
|   | Residuals random or systematic? |  |  |  |
|  |  |  |  |  |
| Group 4. Uncertainty Quantification: See STANDARDS-UQ for detail  |  |  |  |
|   | 1. Parameters and Variables chosen re sensitivities to critical parameters |  |  |  |
|   | 2. Define measures of uncertainty for system overall behavior |  |  |  |
|   | 3. Make choices for contour maps and pdfs of projected results |  |  |  |
|   |   |  |  |  |
| Group 5: Scientific Publication: See STANDARDS-PUB for detail |  |  |  |
|   |  Summary of the Validation criteria and success |  |  |  |
|   |  Weaknesses in validation; parameters/model components undefined |  |  |  |
|   |  Define future expts, model revisions, commentary and responses |  |  |  |