

## Evolution of Pathway Studio

| Version  | PS 3 | PS 4 | PS 5 |
|--|------|------|------|
| <b>Features</b>  |      |      |      |
| MedScan Reader   |      | ✓    | ✓    |
| rDBMS Connectivity and Support   |      | ✓    | ✓    |
| Simulation Module  |      | ✓    | ✓    |
| Import of SBML Data format   |      | ✓    | ✓    |
| Improvements to the Expression Module include<br>P-value column<br>Filter by Value option added to expression view<br>T-test   |      | ✓    | ✓    |
| Color mixing added for group highlighting  |      | ✓    | ✓    |
| MSSQL server data import speed increased ~60%  |      | ✓    | ✓    |
| Network Prediction Tools<br>Pearson Correlation<br>AutoNet Finder<br>Other algorithms can be attached via network prediction API   |      | ✓    | ✓    |
| Ability to import expression data directly in Affymetrix and GenePix format  |      | ✓    | ✓    |
| Accelerated calculation speed for drawing pathways   |      | ✓    | ✓    |
| Database supports STKE and Prolexys data   |      | ✓    | ✓    |
| New Entity type in Database – “Disease”  |      |      |      |
| “Find Groups” functionality compares a gene or set of genes to user-created groups or imported Gene Ontology groups. Displays a list of sorted p-values correlating to how well the selected genes fit each group. |      | ✓    | ✓    |
| “Find Pathways”. (As above)  |      | ✓    | ✓    |
| Improved Export Pathway options  |      | ✓    | ✓    |
| Automatic data updates via internet  |      | ✓    | ✓    |
| PS Viewer - New Layout by Localization (Circular Membrane) and Layout by Localization (Plain Membrane) algorithms. All the necessary cell component images added automatically.                                    |      |      | ✓    |
| Support for Metabolomics and Proteomics experiments.   |      |      | ✓    |
| Improved workflow and enhanced functionality for microarray gene expression data analysis  |      |      | ✓    |
| <b>New options in gene expression view</b>   |      |      | ✓    |
| Find Differentially Expressed Genes  |      |      |      |
| Send Selection to Excel  |      |      |      |
| Synchronous selection of multiple objects between experiment view and pathway view.  |      |      |      |
| New heat map drawing mode - color + numeric values   |      |      |      |
| Facilitated interpretation of gene expression data through Signaling Line Pathways   |      |      | ✓    |

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|---|--|--|---|
| <p>graphical representation of signal transduction pathways from the cell receptor to the transcription factor (based on direct evidence that the TF is regulated by that receptor)</p> <p>Computationally created from the literature and manually curated<br/>Include most recent literature information<br/>Include canonical signaling cascades (MAPK, NF kappa B, etc)</p> |  |  |   |
| <p>MedScan Reader 1.1 based on MedScan 1.9.1 technology supports Plants Literature Information.</p>   |  |  | ✓ |
| <p>ResNet Plant Database.</p>   |  |  | ✓ |
| <p>Enterprise configuration (Pathway Studio functionality integrated with PathwayExpert/WebClient).</p>   |  |  | ✓ |
| <p>DVD package with PS 5.0 + embedded MSSQL + preloaded data</p> <p>Desktop version of the full ResNet Mammalian Database –previously only available through the Pathway Studio Workgroup edition.</p> <p>Single database and software installation facilitated by product DVD versus previous download access.</p>   |  |  | ✓ |