

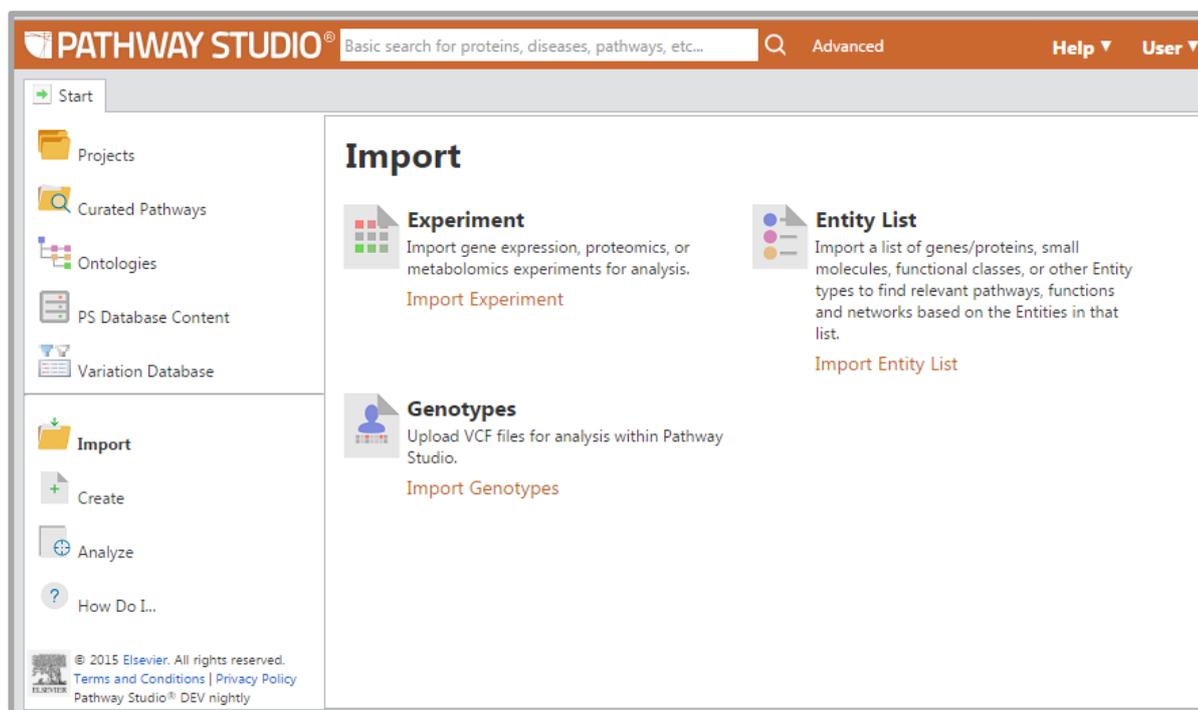
What's New in Pathway Studio Web 11.1

Elsevier is pleased to announce the release of Pathway Studio Web 11.1 for all database subscriptions (Mammal, Mammal+ChemEffect+DiseaseFx, Plant). This release delivers an updated user interface designed specifically to streamline pathway building workflows, allowing you to drive more rapidly to specific and meaningful results. The new Network Builder provides powerful easy-to-use filtering tools and short cuts, designed to satisfy the novice user while still maintaining advanced filter options for the power user. In addition, easy-to-use basic and advanced filter options allow for quick identification of more granular results from larger networks.

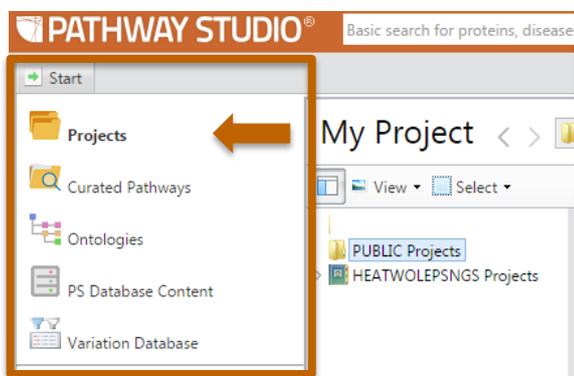
Additional new features include in-product pathway building instructions which allow you to view on screen step-by-step network building instructions for a selected topic of interest to more quickly answer your biological question, improved table export options, improved speed and performance, and an improved ontology browser viewer.

This bulletin will provide an overview of the new features in this release.

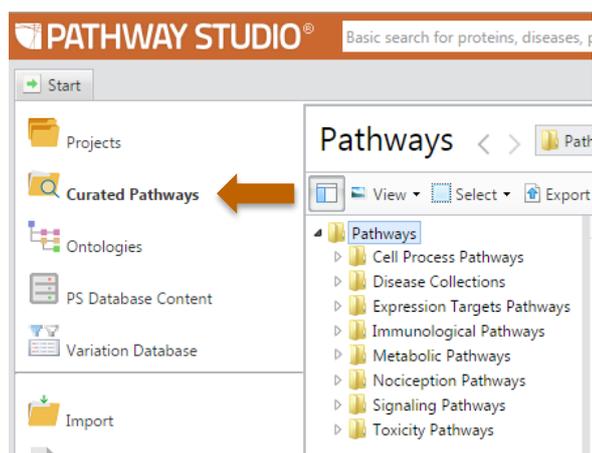
I. Pathway Studio Web's New Interface Enhances And Accelerates Discovery



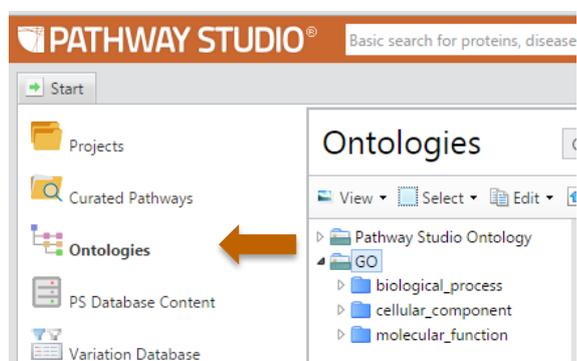
The top half of the Start tab contains links to information about the database, specifically:



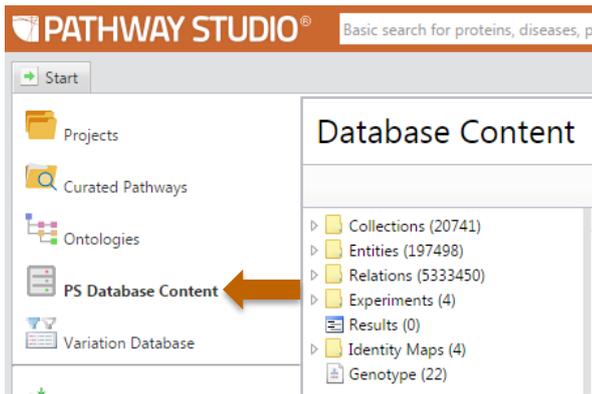
Projects: The Projects folder contains your personal folder where you store all your work (saved pathways, groups, imported experiments, etc.)



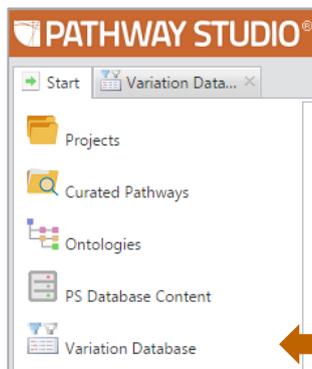
Curated Pathways: The Pathway Studio reference pathway collection contains more than 1600 expertly-curated pathways (as of fall 2015) representing a cross section of biological interests. Elsevier will continue to grow this collection as we continue to grow the database content



Ontologies: Two different ontologies are provided for your research and discovery needs: Gene Ontology from the [Gene Ontology Consortium](#) and Pathway Studio Ontology, a reduced non-overlapping core set of cell-level molecular function groups developed by Elsevier scientists.



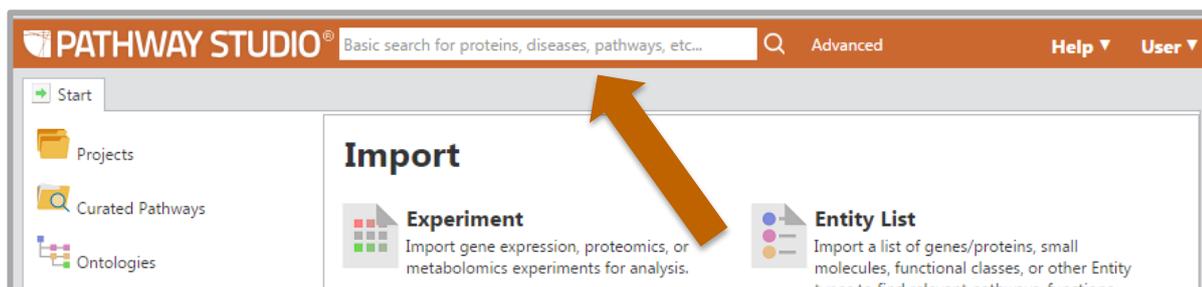
PS Database Content: This view allows you to quickly see the database statistics for: collections (groups, ontologies, pathways), entities, relations, experiments (imported and saved), results (saved), identity maps (for mapping to database files – mapping files for some commonly used microarray platforms are automatically included in your subscription), genotypes (customer imported SNP files).



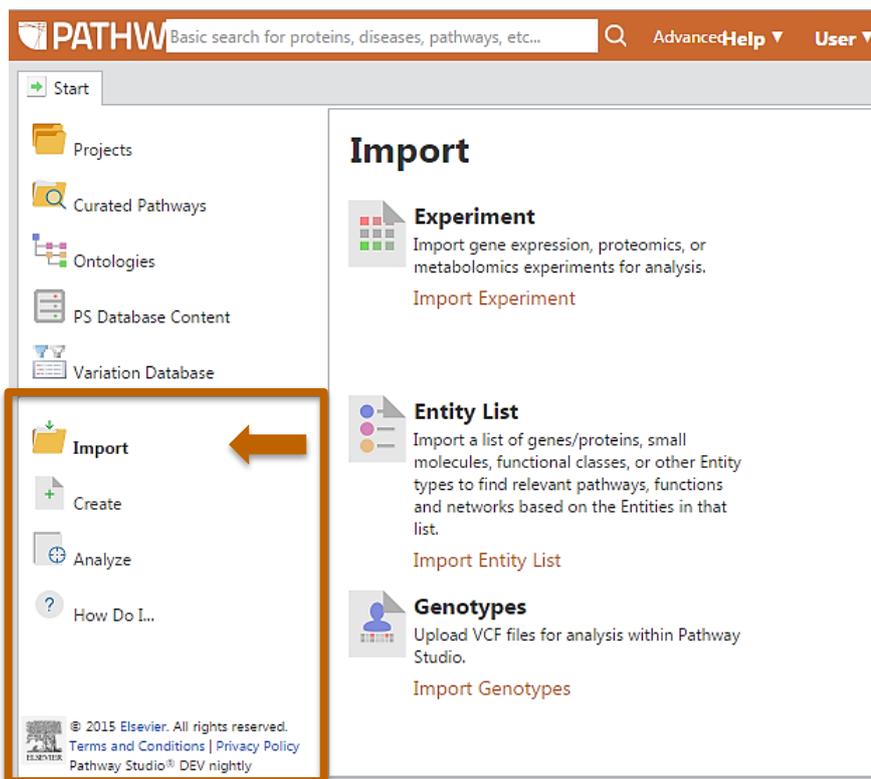
Variation Database: The [dbSNP database](#), with currently over 200 million known human SNPs (Single Nucleotide Polymorphisms) is available to query and to use when analysing your own uploaded genotype files.

#	rsid	C...	Locati...	ref	Alt.	Gene	Gene region
1	rs376643643	1	10020	A	-		Intergenic
2	rs373328635	1	10056	A	-		Intergenic
3	rs62651026	1	10108	C	T		Intergenic
4	rs376007522	1	10109	A	T		Intergenic
5	rs368469931	1	10139	A	T		Intergenic
6	rs144773400	1	10145	A	-		Intergenic
7	rs375931351	1	10147	C	-		Intergenic
8	rs371194064	1	10150	C	T		Intergenic
9	rs367896724	1	10177	A	-		Intergenic

Search from the top tool bar: The quick entity search and the advanced search by properties for entities and relations can be found in the top tool bar.

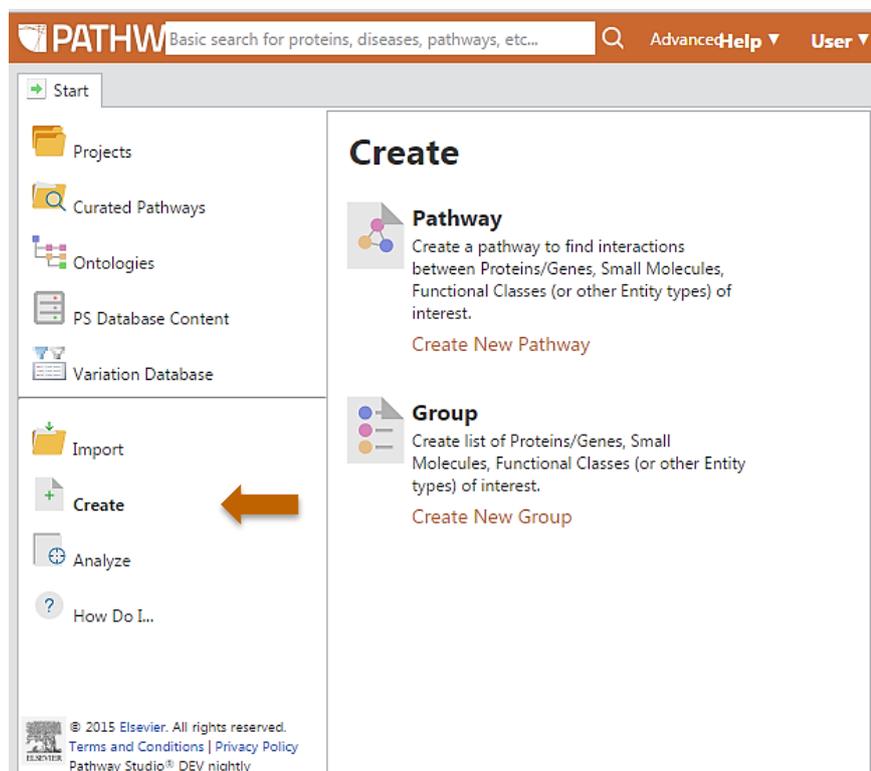


The lower half of the Start tab contains links to initiate workflow activities, including:



Import: From the import menu, you can select to import:

- lists of entities (such as a list of genes, or small molecules, etc.)
- experiments (gene expression such as microarray or RNA-Seq, proteomics, metabolomics)
- genotypes (SNP data from NGS analysis)



Create: From the create menu you have the option to open a new **Pathway** (graph) view or a new **Group**.

Once a new pathway is open you can add entities or relations; in the case of a group you can only add entities (no relations). This is a starting point for many downstream network building and analysis activities.

PATHWAY Basic search for proteins, diseases, pathways, etc... **Advanced Help User**

Analyze

- Multiple Genotypes**
Select multiple genotypes to analyze and compare within Pathway Studio.
[Start Analysis](#)
- Single Genotype**
Open a single genotype file for viewing and analysis within Pathway Studio.
[Start Analysis](#)
- Experiment Summary**
Using your gene expression or metabolomics experiment, Summary Analysis identifies implicated pathways, cell processes, disease-associated gene sets and regulators.
[Start Analysis](#)
- Entity List Summary**
Identifies implicated pathways, cell processes, disease-associated gene sets and regulators for groups.
[Start Analysis](#)

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Pathway Studio® DEV nightly

Analyze: This menu provides the starting point for analysis of entity lists and experimental data via the Summary Analysis Tools for each. The Summary Analysis Tools provides top results for a number of different enrichment calculations. If you have not yet imported your list or experiment, you can initiate import once you have selected one of these analysis options.

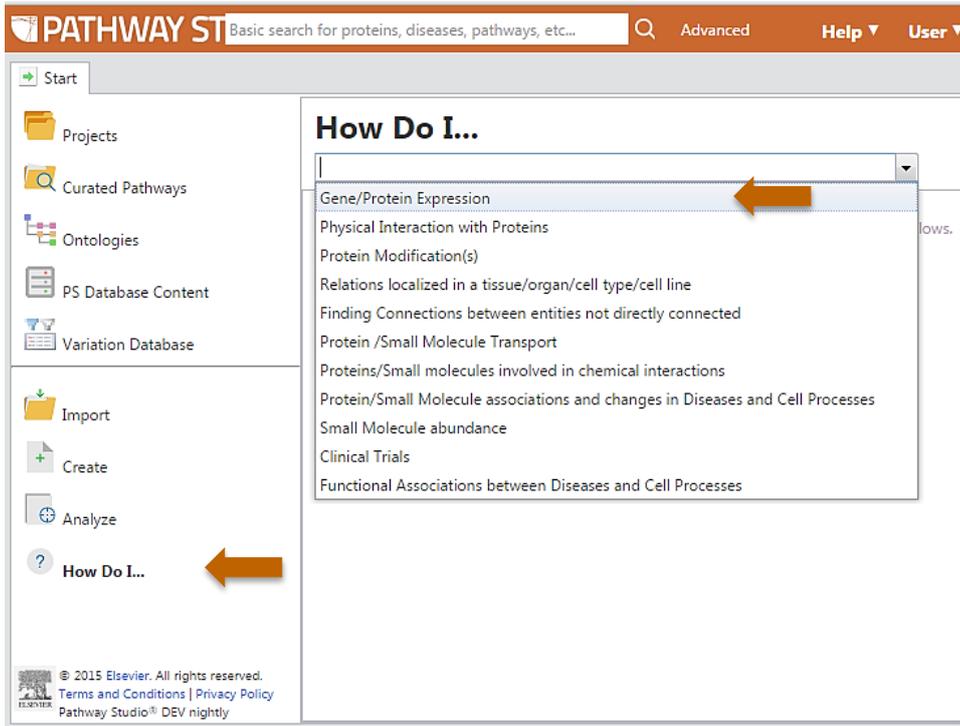
(For a more extensive list of enrichment results, run the enrichment calculations from the opened experiment or opened entity list.)

In addition, you can start SNP analysis of a single genotype or multiple genotypes from this page. If you have not yet imported .vcf files, you can start the import from within these dialogs.

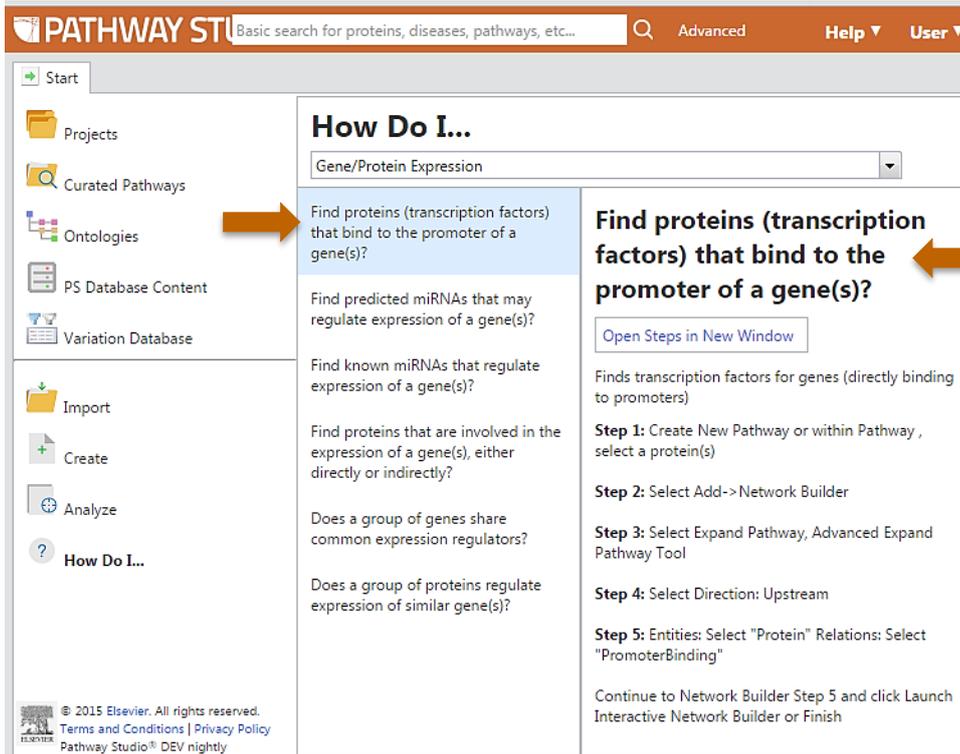
II. Accelerate Network Building With On-Screen Step-By-Step Instructions

The “How Do I...” on-screen help provides step-by-step instructions for many of the common network building workflows. The workflows provided represent some of the broad questions that can be quickly answered by querying Pathway Studio’s extensive database to build desired networks.

Note: not all workflows are possible for all database types. For example, subscribers of the Mammal only database cannot examine networks that include relations between small molecules and diseases or cell processes as this data is only included in the ChemEffect dataset. Subscribers to the Plant database could not, for example, see associations with Clinical Trials, as this is associated only with mammalian data and included in the DiseaseFx dataset.



To begin, select “**How Do I...**” and select a desired workflow from the drop down menu.

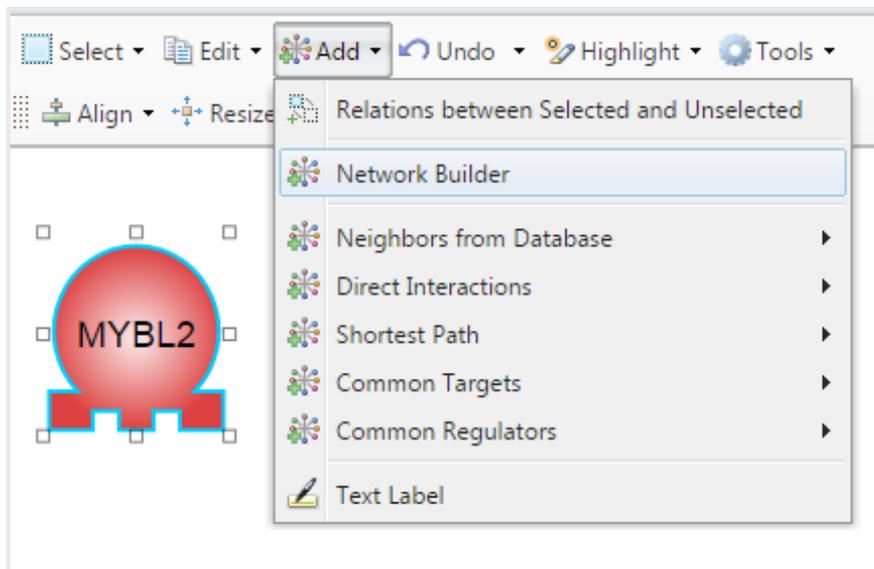


Next, chose a specific workflow from the selected category.

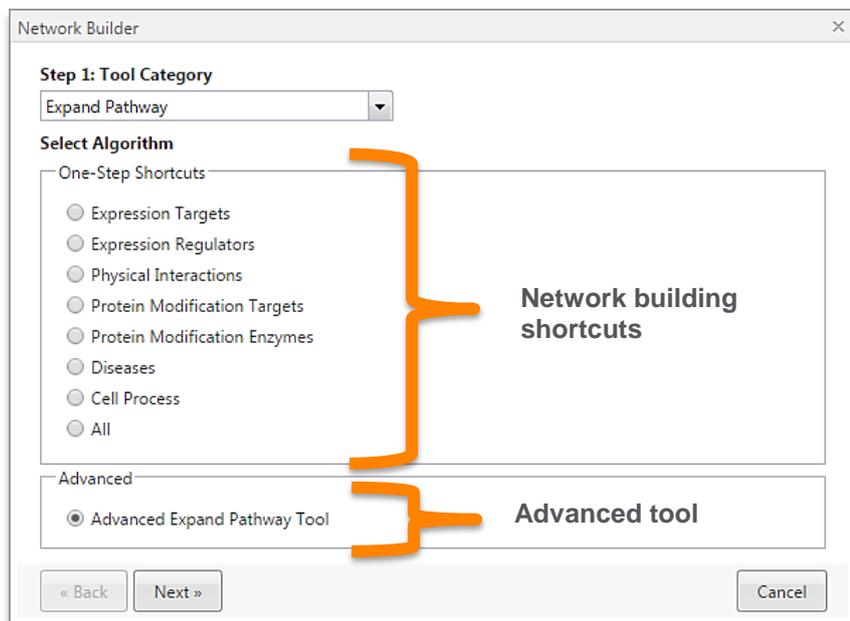
Step-by-step network building instructions will appear in the window on the right. By following the instructions provided, you can use the (new) **Network Builder** to construct a network to answer your specific biological question.

III. The New Network Builder Streamlines Pathway Building.

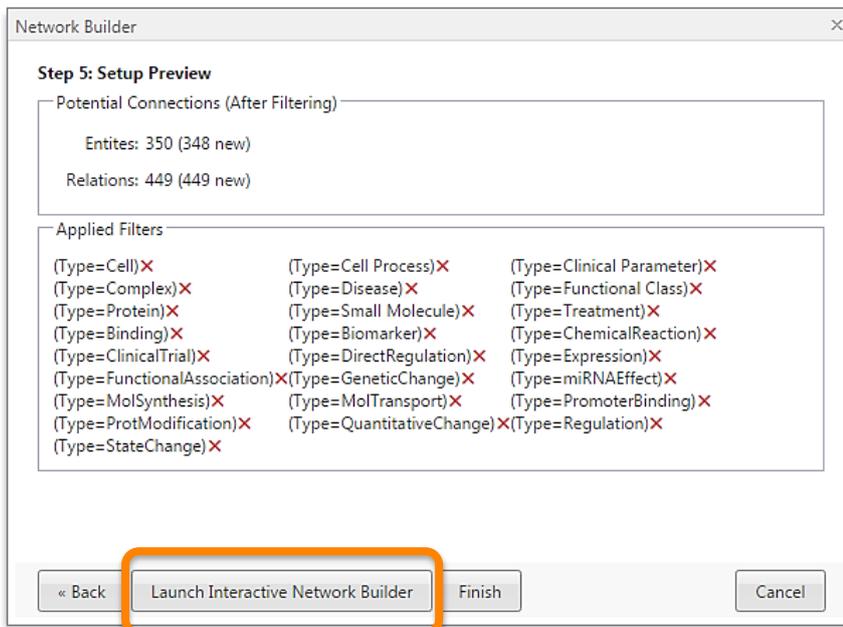
The new Network Builder provides a simple workflow to build and filter pathways, providing powerful easy-to-use filtering tools and short cuts, designed to satisfy the novice user while still maintaining advanced filter options for the power user.



All network building activities are launched from the (new) **Network Builder**.

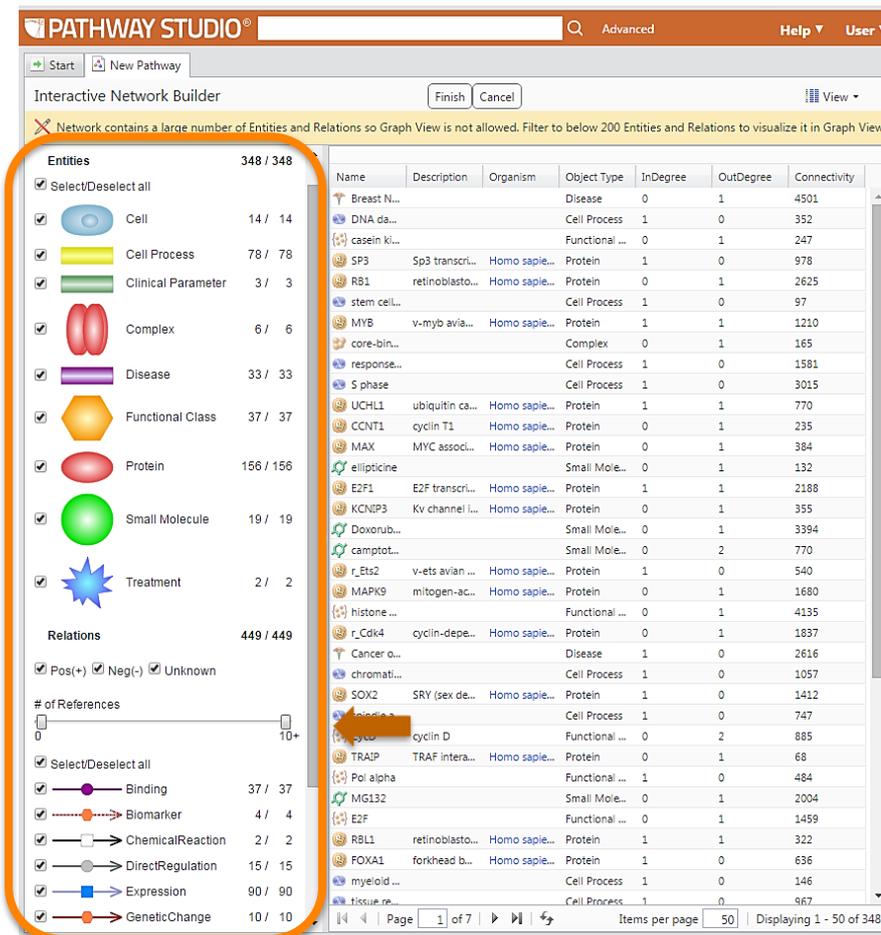


The **Network Builder** has both one-step short cut menus as well as the familiar advanced pathway building tool for use for building a more customized pathway.



The **Interactive Network Builder** provides additional easy-to-use filtering options during the network building process.

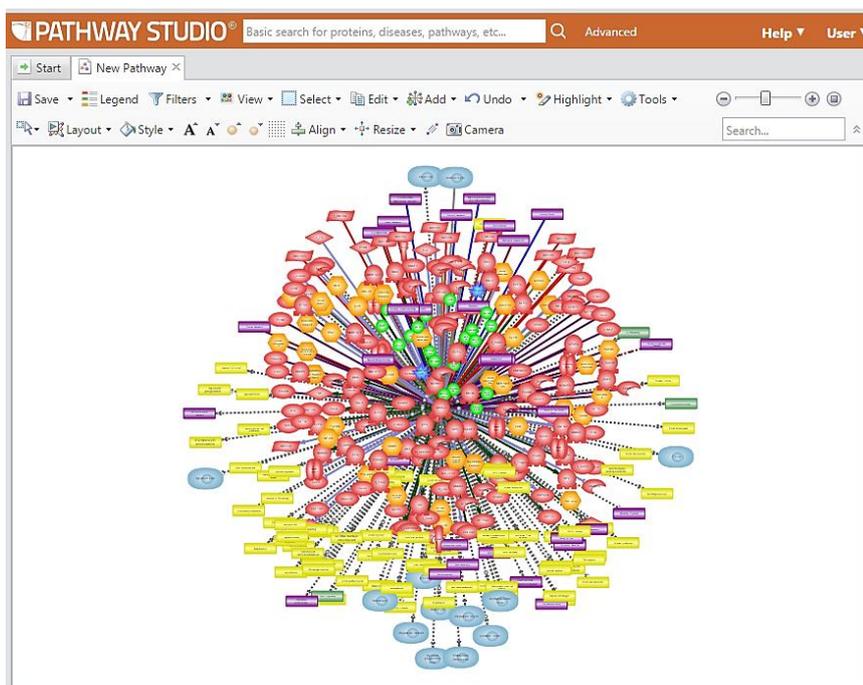
Before completing a network, you can launch the **Interactive Network Builder** to further refine your results.



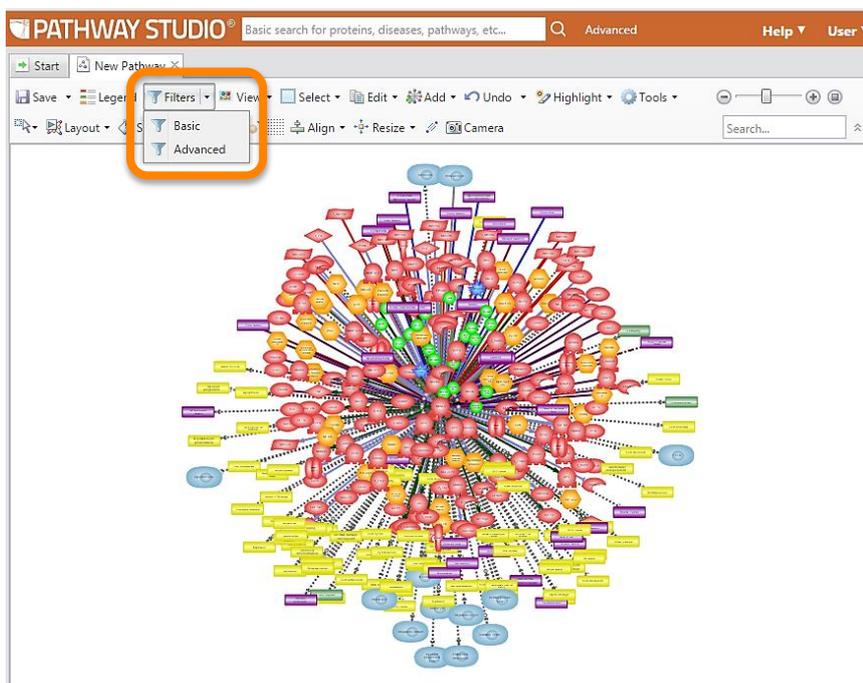
Within the **Interactive Network Builder** you can quickly visualize summary information about your network for both entities and relations.

Using the check boxes, you can deselect specific content from your network, or toggle your selection to examine the impact of removing or adding back content.

In addition, you can apply a reference count filter for the relations. By increasing the reference count for relations, you increase the confidence level of your final pathway.



By applying filters for specific entities/relations during the network building process, you can more easily reduce your network to smaller, more specific results.



You can also access the **Interactive Network Builder** after you have completed a network from the Filters> Basic tool bar menu.

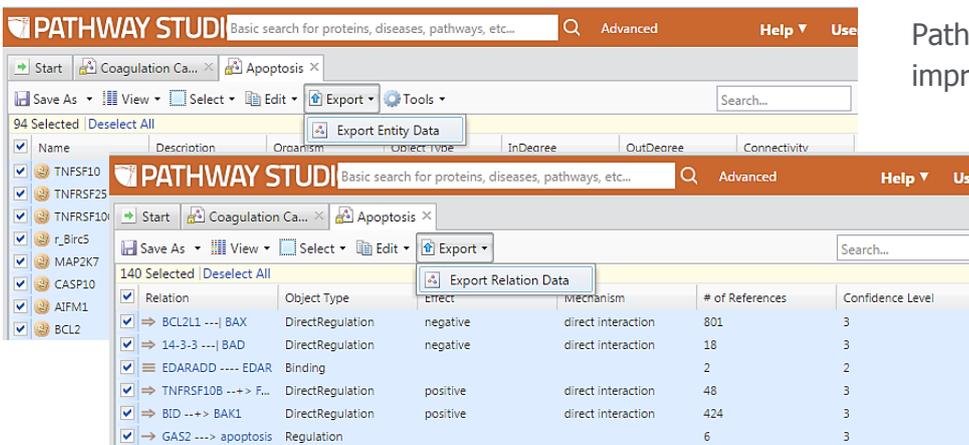
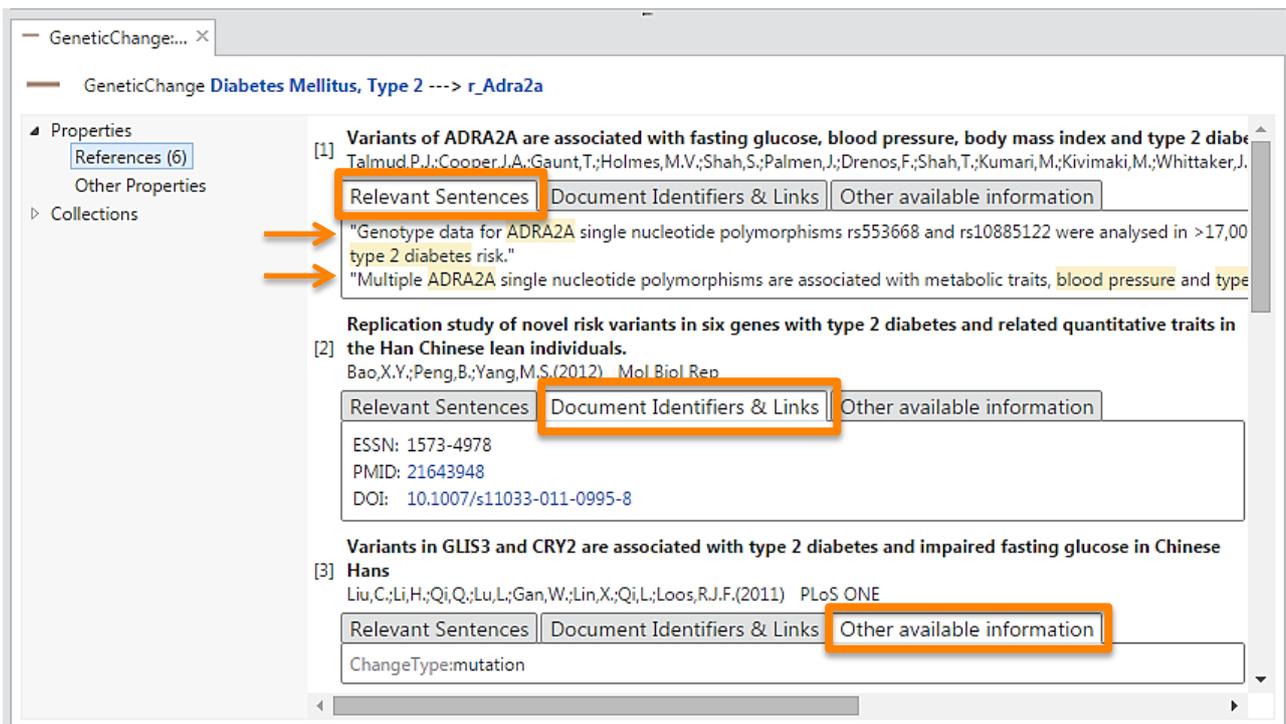
By using the Interactive Network Builder, either during the network building process or after a network has been completed, you can further refine your results for faster and easier discovery of pertinent results.

To learn more about how to use the Network Building please see the Network Builder training material on the [Support Site](#).

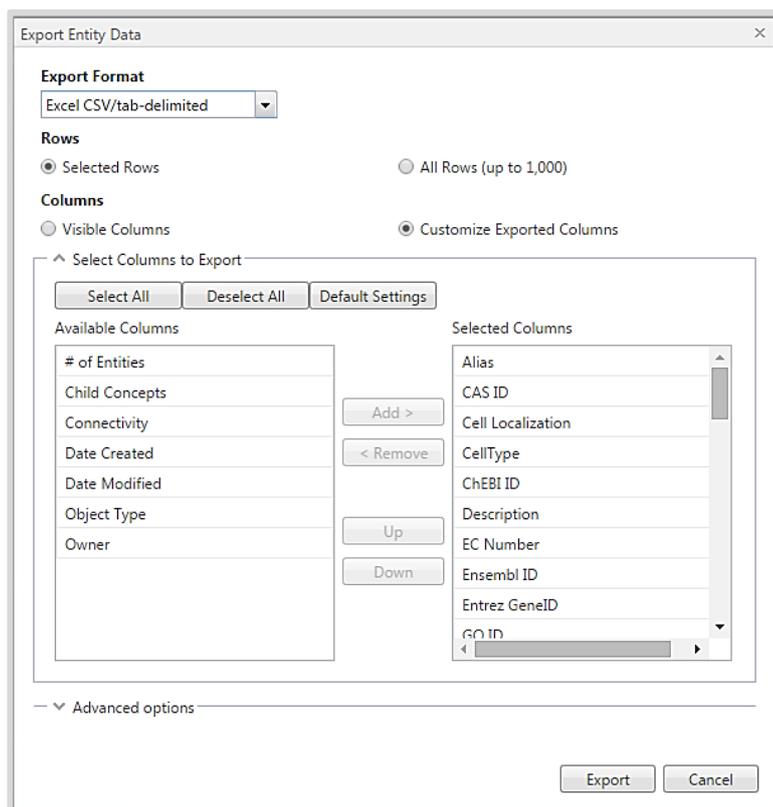
IV. Additional Improvements.

The Pathway Studio 11.1 update provides additional improvements to enhance your experience, including improved speed and performance, the ability to export entity and relation tables from a network, an improved relations properties view and an ontology browser to view groups and members contained within each ontology branch.

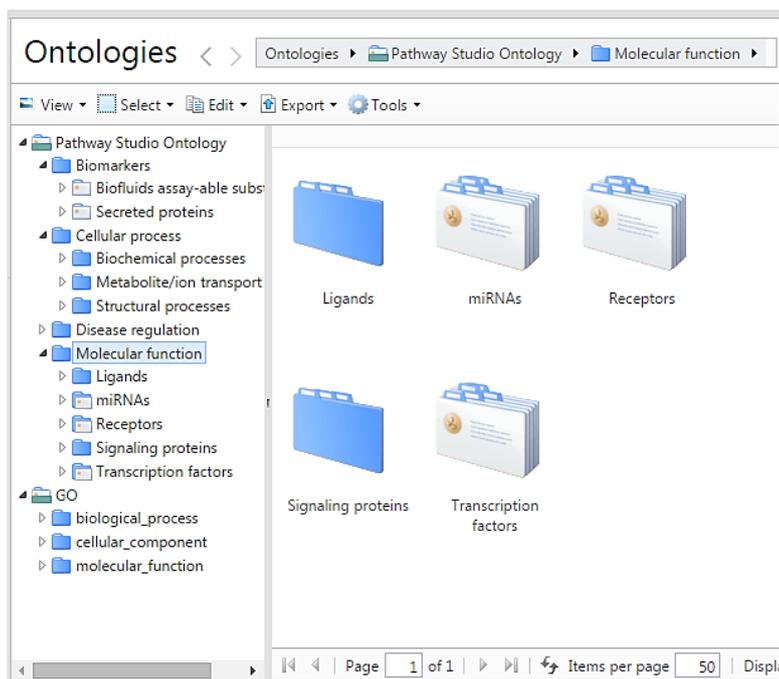
The updated reference properties view provides annotation information in a clear and concise manner. For each reference, all supportive sentences for the relation are contained in the Relevant Sentences tab. The Documents Identifiers & Links tab includes external links to the reference source. The Other Available Information tab includes any additional annotation available, such as sub-type of the relation or tissue/cell line name/cell type/organ annotation.



Pathway Studio Web 11.1 has improved table export capabilities.



The export dialog allows for selection of export formats (RNEF or Excel CSV/tab-delimited), selection to export some or all of the content of a table, and to customize the columns to export.



The ontology browser provides easy visualization of the hierarchy of the ontologies as well as groups and members included in a selected branch of the ontology.

Access to the new Pathway Studio Web 11.1 is provided automatically with your subscription. You do not need to do anything to access this new version.

If you have questions about Pathway Studio 11.1 or any general questions about Pathway Studio, please contact Elsevier's [Customer Care](#).