DiseaseFx®
Linking the Effects of Disease With Molecular Observations

Integrate molecular facts from clinical research to reveal a basis for the detection and mechanism of disease and therapy.

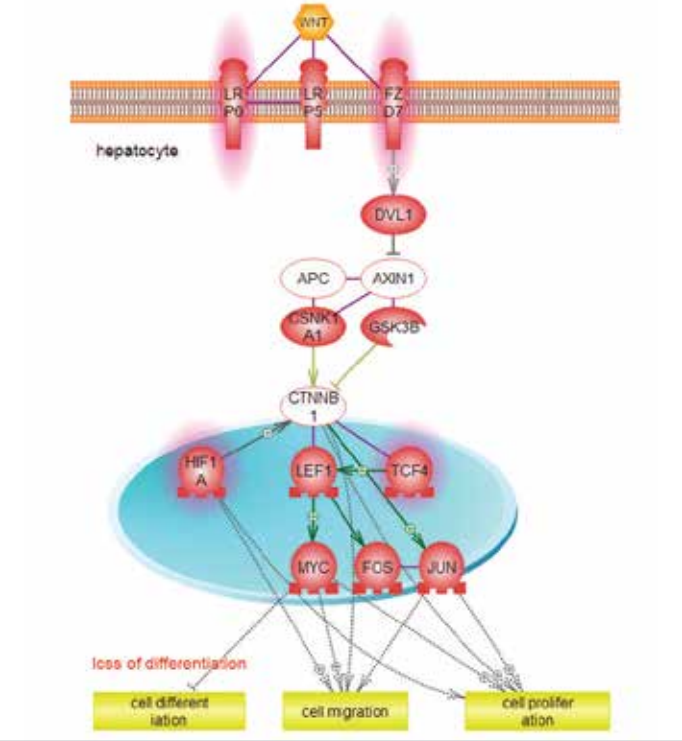
Pathway Studio®
Fact Sheet

DiseaseFx® is a powerful informatics resource from Elsevier to help computational biologists produce meaningful results from large quantities of clinical research data, to support new discoveries, develop hypotheses, and create disease-specific mechanistic models. DiseaseFx supports in-house *in silico* biomarker discovery programs, and pathway analysis of clinical and experimental data:

DiseaseFx is a knowledgebase derived from peer-reviewed research findings that link human disease with molecular observations such as:

- Changes in the activity of proteins
- Changes in gene expression
- Changes in the concentration of metabolites
- Gene mutations
- Gene deletions
- Changes in epigenetic methylation observed in disease

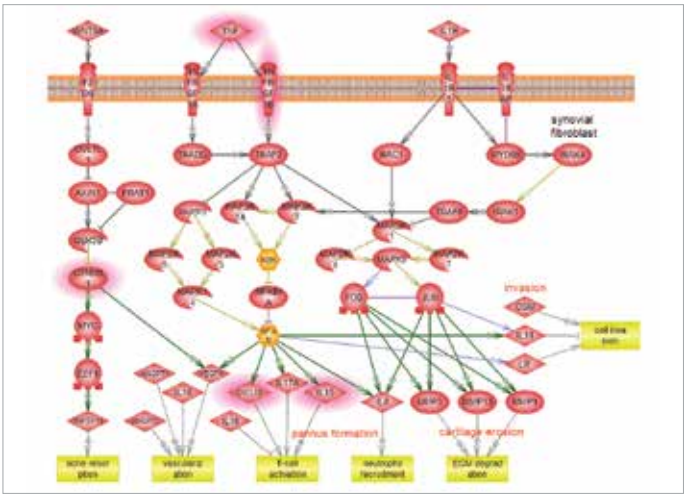
DiseaseFx additionally links diseases with information from ClinicalTrials.gov, to enable researchers to smoothly transition from molecular observations to disease and potential therapies. It integrates explicit references from clinical research regarding confirmed and potential prognostic and diagnostic biomarkers. It can provide a good first approach to determine the specificity of a particular protein as a disease biomarker, and provide insights into the design of clinical trials. DiseaseFx provides decision support for prioritizing proteins that are involved in disease pathogenesis, or that are most specific for prognostic or diagnostic applications.



DELIVERS BOTH DISEASE-FOCUSED KNOWLEDGE AND QUANTITATIVE OBSERVATIONS TO ASSIST WITH YOUR TARGET OR BIOMARKER DEVELOPMENT

The disease-centric design of DiseaseFx is synergistic when used with Pathway Studio's Mammalian database, and with the compound-centric ChemEffect® database. It comes with a set of nearly 400 expertly designed "Expression Target" signaling pathways that augment the pathway libraries included with Pathway Studio. Elsevier designed these pathways based on observations linking cell surface receptors to proteins downstream of transcription factors, to produce superior analytical results in the interpretation of experimental profiling data. When combined, all three databases deliver a highly-accurate and comprehensive resource of over 4.6 million biological interactions.

Figure 1.
WNT / BETA-CATENIN Signalling in Hepatocellular Carcinoma
WNT/beta-catenin (WNT/CTNNB1) signaling pathway controls various cellular functions including proliferation, differentiation, and migration. It has been demonstrated that the overexpression of LRP6, FZD7, TCF4, and HIF1A in addition to mutations of APC, AXIN1, and CTNNB1 genes are associated with hepatocellular carcinoma.



DISEASE-CENTRIC FOCUS

A comprehensive scope snapshot of the state of knowledge

Produced by Elsevier's proprietary text mining technology, DiseaseFx provides a comprehensive snapshot of the state of knowledge in an integrated framework. Clients can update DiseaseFx in Pathway Studio as often as needed to extract facts from additional in-house and 3rd party documents, to augment the information already in the Pathway Studio database.

GET PATHWAY STUDIO NOW

Elsevier offers customers access to Pathway Studio through flexible subscription programs. We will tailor subscription programs to customer needs based on the scale and configuration of the Pathway Studio deployment.

Enterprise Edition

The Enterprise Edition software provides powerful visualization and data mining tools for open-ended questioning so users can explore canonical pathways and build de novo network based on queries. They can import experimental data to develop or verify a mechanistic hypothesis, or perform limited text mining using the embedded NLP text mining Technology to customize their database content, and to capture domain specific knowledge. Multiple independent researchers in one facility can share data in the Enterprise Edition using the export and import tools. With the Enterprise Edition software, standalone access or shared access is possible.

Web Edition

The Pathway Studio Web Edition software provides web-based access to researchers almost anywhere. Elsevier provides a comprehensive knowledgebase to cover most common research areas in pharmaceutical companies, biotech, and academic research. These databases include relationships derived by Elsevier from public and private data sources, including data retrieved using the NLP text mining technology, and manually curated pathway data. Updates are available on a weekly basis.

Pathway Studio comes with either the Mammalian Database or the Plant Database, depending on your research interests.

Subscribers can add "premium data sets" to their subscription, including:

- ChemEffect, a compound-centric database for the study of the effects of drugs, biologics, and environmental chemicalson biological systems

Web databases are updated weekly, while the Enterprise database is updated quarterly.

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For more information on how this versatile, scalable solution can help you and your team, visit:
elsevier.com/products/solutions/pathway-studio