

Idun Pharmaceuticals

This biotech company has developed BioWeb, a browser-based scientific tool that provides a chemical property and biological data interface to their corporate database. Using BioWeb, research chemists access sophisticated search engines powered by Microsoft® BackOffice® technologies. BioWeb has saved the company over \$100,000 in the first year of operation and has generated industry-wide recognition for Idun.

Solution Overview

Company Profile

Idun Pharmaceuticals creates innovative human therapeutics with a primary focus on controlling apoptosis, or programmed cell death. The company believes that control of the cell death process will have utility in treating cancer, neurodegenerative diseases, ischemic disorders, and cardiovascular disease. Idun has a broad patent portfolio covering the fundamental and core technologies involved in the regulation of cell death. Located in La Jolla, California, Idun employs over 70 people.

Situation

Idun Pharmaceuticals wanted a custom-designed solution to help scientists search their database—the company's most valuable asset. A custom solution specifically tailored to the scientific environment would give them a competitive edge over other biotech companies using conventional, pre-packaged solutions.

Business Solution

BioWeb provides a powerful, Web-based custom solution that is easy to maintain, for much less the cost than pre-packaged products. Aided by the power and flexibility of Microsoft Windows NT® Server and Microsoft Transaction Server, BioWeb designers were able to integrate active chemical structure searches into the application, opening the door for sophisticated scientific queries. Accessed by Idun researchers, BioWeb is a dynamic partner in the scientific process.

Benefits

By designing their own Web-based research database, Idun Pharmaceuticals has saved \$100,000 in the first year, with expected future annual savings of \$45,000. Chemists can register compounds and view associated biological data—furthering research and enriching the company's database. More importantly, BioWeb has received industry-wide recognition and has enhanced the company's profile in research and investment circles.



The classic scientific method of developing a hypotheses and designing an experiment to test it is an appropriate model for the development of Idun Pharmaceutical's custom Web browser-based scientific tool, BioWeb. Developed for Idun's research scientists, this flexible research tool gives users access to a rich database to test their theories and draw conclusions. By designing a system specific to the scientific environment, Idun has gained a competitive edge over other pharmaceutical companies using pre-packaged solutions.

A Research Tool Limited Only by the Imagination

Drugs are developed by generating and testing compounds in assays that mimic biological functions. As chemists enter and retrieve biological and chemical data from Idun's database, they are searching for the best combination of biological data, chemical properties and structures to test their theories and build up research data.

"For a small company like ours, it is the research data that draws partners and money," says Candace Apple, Manager of Information Systems for Idun Pharmaceuticals. "To really leverage this principle, we needed a system that would allow us to obtain the most benefit from the data generated."

Idun's BioWeb does just that. Finely tuned to the specific requirements of the scientific method, this Web application is only limited by a scientist's imagination.

"Chemists can build their own queries and nested queries," says Apple. "BioWeb allows them to save "favorite" searches that could be shared and run again as new data is generated. They can also use one set of results to begin another query."

BioWeb also allows users to see relationships between chemical compound structure and biological results. This in turn generates new directions for the synthesis of compounds that may be more active and/or less toxic before instigating clinical trials for patients.

Custom Designed for Science

Comparing the costs of pre-packaged solutions with the development and maintenance cost of BioWeb yields some compelling statistics. By designing a custom system, Idun saved \$100,000 the first year and will continue to save close to \$45,000 annually. In addition, BioWeb has given Idun a competitive edge in the biotech and pharmaceutical industry.

"Our solution has definitely increased the company's perceived value as collaborators consider our ability to quickly, efficiently and flexibly share information," reports Apple. "Now we can meet needs and solve problems that other companies can't. Basically, BioWeb has changed the way we view the data we generate, opening the door to new avenues of research and scientific advances."

Surfing for Data

"We knew people would not use the solution unless we delivered it to them in a familiar environment that was easy to access," recalls Apple.

Creating a Web-based application brought the data to researchers' desktops and afforded users a greater initial comfort level. "Because of the current high level of Web browser use for obtaining all sorts of information, no one has a fear of 'surfing for data'," says Apple.

Twin goals of simplicity and power inform the user interface design. "Our job was to make the science easier," says Apple. "We wanted to make the system simple, but extremely flexible. The search engines pull pertinent information from the database to walk the scientist through the query process without limiting what kind of query can be entered. System checks run at the point of data submission to ensure accuracy and prompts the user for corrections prior to accepting data."

Prompts and menus also help users to learn about new experiments and projects that can be used in their own queries. Idun researchers are able to learn experiment

