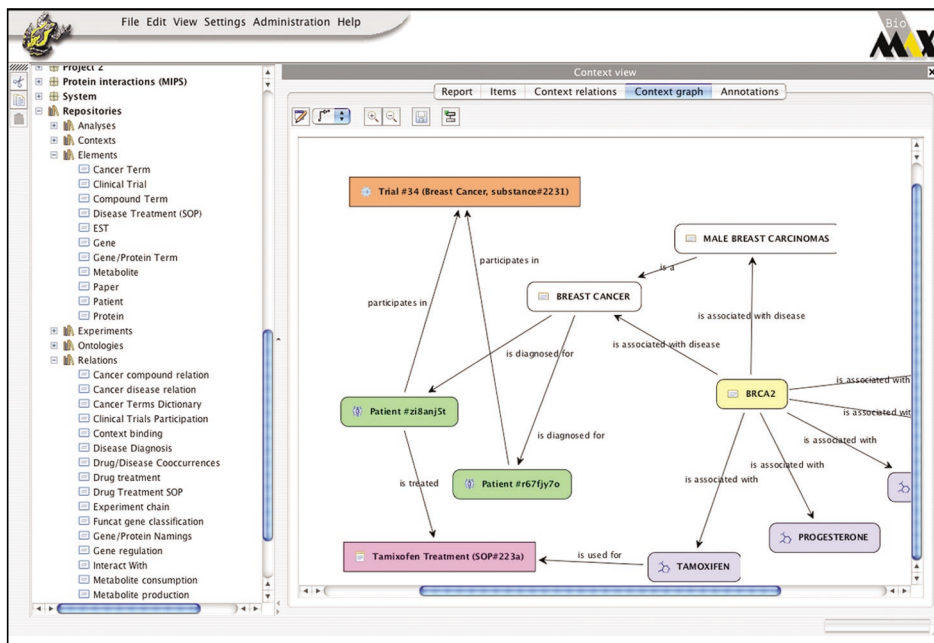


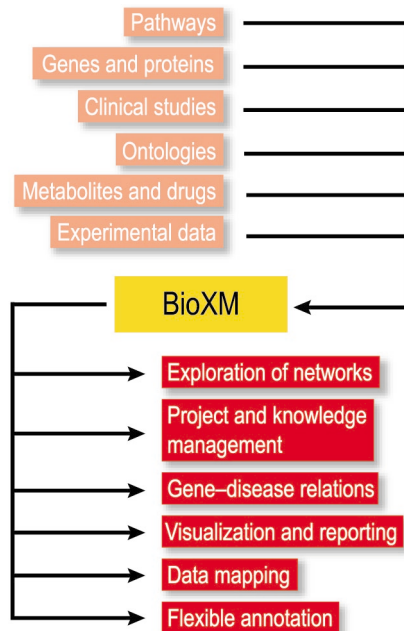
**Product:** BioXM Knowledge Management Environment

**Applications:** knowledge management and semantic data integration, research collaboration, information publishing and project management

**Product contact:** info@biomax.com



BioXM visualization of relations between patient, compound, disease and gene



## Life science knowledge management

The vast quantities of information being generated by high-throughput experimental methods are being published in new articles every day. Processes in biological systems are interrelated on many levels and their regulation presents a complexity that needs to be understood in detail to successfully manage risks in the development of products for the life science market.

The BioXM™ Knowledge Management Environment is a project-centered, distributed platform that facilitates communication and collaboration in a research environment. The BioXM system provides a central inventory of the information describing a particular area of research, making it easy for a scientist to stay in touch with recent additions or changes in knowledge that should be available to the entire organization. In addition, BioXM knowledge management provides a personalized work environment, supporting user and project groups. This environment allows researchers to focus specifically on generating knowledge in a particular scientific field — knowledge that can easily be published to a broader audience within the BioXM Knowledge Management Environment.

### Advance the objectives of your organization

- Support decision-making processes by maintaining a corporate warehouse of structured, interrelated information
- Capture your organization's existing knowledge and public information to "get the big picture"
- Conceptualize your area of research, distribute news and share your information with others
- Overcome geographic separation and functional compartmentalization in your organization
- Support all stages of long-term R&D projects and promote collaboration among researchers

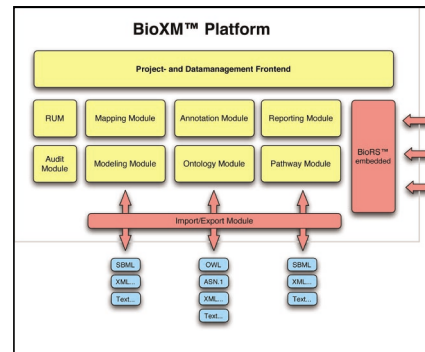


BHGDB Import	
bmx0421000303	
Title	UDP-Gal:OicNac beta1,3-galactosyltransferase variant 1 B30ALT5 - Homo sapiens
Gene name	UDP-Gal:betaOicNac beta 1,3-galactosyltransferase, polypeptide 5
Cytogen localisation	21q22.3
pI	9.03
Length (aa)	310.0
Molecular weight (Da)	38189.4
Disease	Bacillus thuringiensis (animal disease)(11486087)

BioXM gene report

General   Elements		
View: BHGDB Gene Informations		
Gene Symbol	PKP*	
Search		
Gene Symbol	Aliases	Annotated Gene Isoforms
PKPXP1	LocusID: 82500 HngID: 13413 LocusID: 9088 Ref Seq ID: NM_004203 GI Accession: 21361093 Omm ID: 602474 UniGene ID: Hs.77783	bmx0418000169
PKPB	LocusID: 5570 HngID: 9019 Ref Seq ID: NM_032471 GI Accession: 14210480 Omm ID: 608914 GDB ID: CDB_433265 UniGene ID: Hs.1181196	bmx0405001601
PKP2	LocusID: 5318 HngID: 9024 Ref Seq ID: NM_004572 GI Accession: 4758932 Omm ID: 602891 GDB ID: CDB_656853	bmx0412000496

BioXM gene list



Software modules

## Knowledge management and semantic data integration

The BioXM Knowledge Management Environment is designed for the aggregation and semantic modeling of scientific processes.

- A scientific area of interest (e.g., a disease) is semantically modeled as a network of related elements.
- The user can define different element and relationship types. For example, elements of type "gene" or "protein" can be linked together using a relation of type "gene regulation" or "protein-protein interaction."
- A context (a region within the larger network of knowledge) allows modeling and organization of pathways. Relationships between contexts and other semantic objects (e.g., elements) can be established.
- Experimental data (e.g., data tables) can be organized as BioXM objects.

## Research collaboration, information publishing and project management

The BioXM Knowledge Management Environment provides both a central inventory of information and knowledge and a project-based, personalized work environment. This combination allows a scientist to design working models and annotate preliminary information that may be published later to a broader audience.

- Semantic objects (such as element, relation or context) can be annotated.
- A form-based approach supports the "modeling" of related information. Hierarchical organization of forms enables complex data models (e.g., MIAME or PEDRo).
- Objects can share annotation to imply relationships.
- Entire areas of interest can be organized through the use of ontologies.

## Enterprise technology – a modular, scalable architecture

The BioXM knowledge management platform is a client-server based enterprise system. The primary user client is a Java™ Swing graphical user interface (GUI), providing a comfortable, modern and visual user experience.

The GUI offers all the interactive functionality that is typically known from desktop applications (e.g., drag-and-drop, copy-and-paste, printing and file-system access). In addition, generated reports can be accessed with any Web browser.

The BioXM server has a highly modular, open architecture, ensuring expandability and maintainability. BioXM seamlessly embeds the Biomax BioRS™ Integration and Retrieval System, a proven integration platform for scientific databanks, and extends it with semantic components.

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