

Solution



Search, Manage, Mine, Share the World's Sequence Data

GenomeQuest™ for Biological Sequence Analysis

- Browse in-house or GenomeQuest databases by keyword and then BLAST 1, 1000, or 100,000 of selected sequences
- Group, classify and count results by gene, organism or other attributes
- Annotate lists of genes and ID's from micro array experiments and generate reports
- Export selected sequence records and launch third party sequence analysis programs such as PFAM or Vector NTI

GenomeQuest™ is a web-enabled sequence information platform enabling researchers, bench scientists and informatics specialists to analyze, report, export or share results of nucleotide, or protein sequence database searches. GenomeQuest allows you to search biological resources, execute any number of search strategies, and then quickly apply filtering parameters, across results from multiple queries, to deliver the relevant answers to your research questions, using virtualized bioinformatics tools on your desktop.

Complete Content

GenomeQuest provides a platform for accessing aggregated in-house, public and commercial sequence data, enabling users to run database searches from a centralized platform.

Biological Sequences

With GenomeQuest the latest sequence data is all in one place. Information from public nucleotide and protein sequence databases including GenBank, ENSEMBL, and RefSeq are all accessible. GenomeQuest also offers DrugBank Pro, a drug target database, which combines pharmacological information with sequence, and structure, as well as IND information. License holders can access

GeneSeq data through GenomeQuest, as well.

Sequence Patent Databases

GenomeQuest also houses the largest annotated sequence patent database – GQ-PAT. The database contains 20x more patent sequences than GenBank and more annotations than RefSeq.

Flexible Sequence Search

GenomeQuest gives you four different search algorithms to choose from including BLAST, Percent Identity (GenePAST), Fragment Search, and Motif Search.

Besides BLAST and GenePAST (perfect for short sequence searches) GenomeQuest offers Fragment search which finds alignments between fragments that are common between query and subject sequences. Motif search makes necessary allowances for ambiguity in your query sequence. Motif works with Prosite patterns, regular expressions, and IUPAC ambiguity codes for nucleotides and amino acids.

Keyword Search

GenomeQuest keyword search enables you to find sequences using a keyword located in the annotation.

The GenomeQuest High Throughput Platform

GenomeQuest gives you all the functionality of a bioinformatics facility including sequence search, algorithms, results analysis and management and more without the need to worry about hardware constraints, sequence database management, or administration. The GenomeQuest platform provides virtual access to these functions, from any desktop.



Select protein or nucleic databases through check boxes on the user interface. GenomeQuest offers wildcards, proximity/phrase searching, as well as arbitrary combinations of And/Or clauses (available Sept. 2008). GenomeQuest provides a list of default fields searched within each database during the keyword search.

Results can be narrowed down by filtering on default fields and then either generate a report, export sequences to perform a sequence search or launch various 3rd party applications.

Enables users to submit up to 1,000 sequences at once through the web interface.

- **GQ High Throughput Extension (HTx)**
Provides command-line access to all GenomeQuest core functionality for up to 100,000 sequence queries at once. Power-users can script high-performance workflows, performed directly on the GQ server.

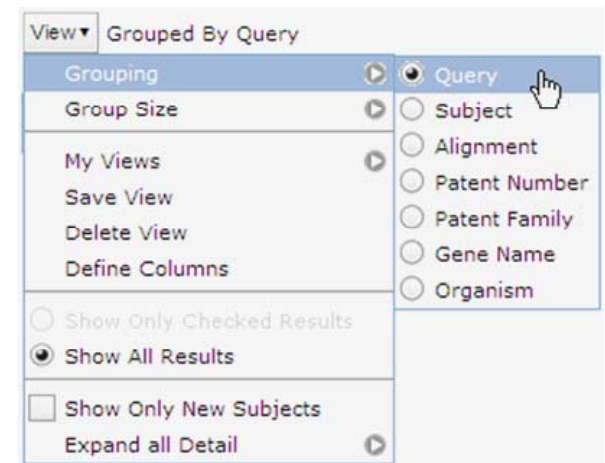
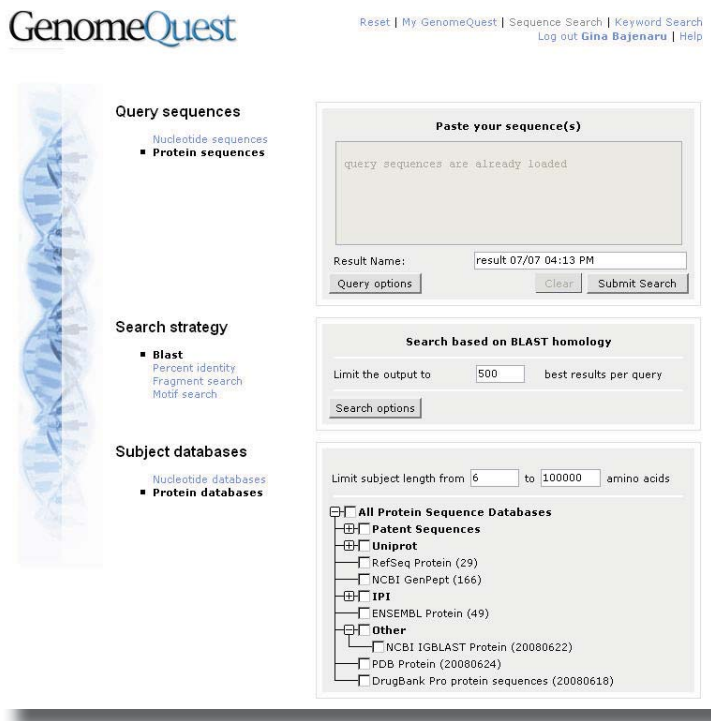
FilterSmart™ Technology

Some searches return hundreds or thousands of results per query. GenomeQuest's FilterSmart technology enables flexible and fast analysis of search results. Simultaneously filter on any number of alignment and/or annotation properties. Easy-to-understand drop-down menus and text boxes, allow you to filter by organism, gene name, even by a keyword located in the description like "kinase".

Grouping

In GenomeQuest the default grouping of results in the results table is by Query but information can easily be regrouped by Subject, Alignment, Gene Name or Organism so you see the diversity of results from different angles. With GenomeQuest you can also control the number of visible best hits to be 1, 3, 5 or "all" results per group.

Quickly paste in multiple sequences, apply a strategy and select databases, from GenomeQuest's Sequence Search screen.



Powerful Results Management

Once GenomeQuest has run your search, filtering, exporting, report generation, alerting, and display setting functions, are combined with convenient annotation display, sorting, and results selection, allowing you to analyze, organize, and manage results from 1-to-thousands of sequence queries, from a single Results page.

For those looking to analyze volumes of sequences at once, or access core functionality via the command-line, GenomeQuest offers the **High Throughput Module** comprised of two components:
- **GQ High Throughput Reporting (HTr)**

Changing your View

Quickly add or remove columns from the results display table to define the precise attributes you want to be viewed in the web page. You can then sort based on any of these columns.

Once you have defined the groups and columns, you can name and save the "View" to quickly apply these settings to other sequence search results.

GenomeQuest

My GenomeQuest | Sequence Search | Keyword Search | Log out Gina Rajenar

My Results > 100 probes

Result Export Applications

Match all of the following Clustalw following

Description Sequence Search Vector NTI

More Less Reset Apply

0 results selected (clear)

View Grouped By Gene Name << First < Previous Gene Names 1-12 of 12 Next > Last >>

Gene Name	Action	Query % Id	Subject % Id	Align % Id	E-val (expect)	Query Id	Subject Identifier	Publication date	Description / Title	Link
empty	9 Results 1-3 of 8	Perfect match	9.00	100	5.45e-4	1	BF149236	2000	Tm017 Human Epidermal Keratinocyte Subtraction Library. Upregulated Transcripts Home sapiens cDNA similar to cell adhesion kinase (CAK), mRNA sequence.	NCBI
		Perfect match	5.9	100	5.45e-4	1	AA338319	1995	EST43238 Fetal brain I Homo sapiens cDNA 5' end similar to similar to tyrosine kinase TRK L, receptor, mRNA sequence.	NCBI
		Perfect match	2.33	100	5.45e-4	1	X99034	1996	H.sapiens gene encoding discoidin receptor tyrosine kinase , exon 17.	NCBI
NEK8	1 Result 1-1 of 1	Perfect match	0.87	100	5.45e-4	7	NM_178170	2002	Homo sapiens NIMA (never in mitosis gene a)-related kinase 8 (NEK8), mRNA.	NCBI
NEK12A	1 Result 1-1 of 1	Perfect match	0.07	100	5.45e-4	7	AY242354	n/a	Homo sapiens NIMA-related kinase 12a (NEK12A) mRNA, complete cds.	NCBI
DDR1	8 Results 1-3 of 8	Perfect match	0.69	100	5.45e-4	1	BC070070	2002	Homo sapiens discoidin domain receptor tyrosine kinase 1, mRNA (cDNA clone MGC:87336 IMAGE:5262509), complete cds.	NCBI

Alignment Subject Annotation Subject Sequence Query Sequence

Subject Identifier BC070070

Accession BC070070

Description Homo sapiens discoidin domain receptor tyrosine **kinase** 1, mRNA (cDNA clone MGC:87336 IMAGE:5262509), complete cds.

Gene Name DDR1
Transcriptome view, Genome View

Publication date 2002

Date of entry 11-May-2004

Submission date 10-May-2004

With GenomeQuest's central Results page, and flexible results table you can analyze, and re-organize your results for best comprehension using a variety of features including filtering, grouping, display editing, sorting and check box selection.

Browsing Result Details

Just click on the results row and expand one of four tabs: Alignment, Subject Annotation, Subject Sequence, or Query Sequence.

Saving Your Workspace

GenomeQuest allows you to exit from your Results page before you have completed your analysis, and pick up right where you left off – an hour, a day, or months later. GenomeQuest preserves your filters, check boxes, display, sorting, etc, in a static state so you can recall them in a single click from the My GenomeQuest page, and continue your work.

Reporting

Whether producing reports for your customers or sharing results with a colleague, GenomeQuest makes it easy. With GenomeQuest, generating a concise Table (Excel) or Document (Word) report on your sequences of interest is easy. GenomeQuest provides detailed reports that are WYSIWYG (What You See Is What You Get). The reports reflect the column layout of the table as well as the grouping and group size options you selected in the GenomeQuest application.

Application Launching

Further manage results by launching sequence analysis applications

e.g. Clustalw, XML for BizInt Smart Charts, Vector NTI or others which may or may not be native to GenomeQuest. With an enterprise installation of GenomeQuest users can add-on their own sequence analysis applications.

Exporting

GenomeQuest enables you to export sequences into a text file for analysis in another application. You can either use filtering or select the sequences by hand. Formats for export include FASTA, GenBank or EMBL.

Keyword Search > RefSeq mRNA > for query "human or or kinase"

Export Applications

Document: Current view

Table: Current view any of the following

Fasta matches

Embl-like

Genbank-like

Saving and Sharing Results

GenomeQuest automatically saves all search results and houses them in My GenomeQuest - a central repository of searches you can organize into project folders and then allow others users to access, for collaboration and information sharing.

Alerting

Stay abreast of updates to a chosen search. When you set an alert on a sequence search in GenomeQuest, the exact same search is run (same query, strategy, parameters, and database(s)) every time any one of the databases is updated. Then GenomeQuest automatically notifies you via e-mail if new results are found.

The Right Fit

Get the right combination of access, economy, and security to make GenomeQuest fit your usage and business needs with two access choices.

GQLive!

If you'd like to get started searching



today, sign up for GQLive! A secure, hosted Internet service providing GenomeQuest patent sequence search, content, analysis and reporting right at your fingertips.

Enterprise Installation

GenomeQuest offers those looking for internal hosting and data access; on-site installation of GenomeQuest. This includes the GenomeCast Update Service, a through-the-firewall updating service that delivers content to keep your data current. Add functionality with the GQ Content Manager module which enables you to easily integrate your own proprietary data into GenomeQuest, so you can search your in-house data along side the data produced by GenomeQuest.

About GenomeQuest, Inc.

GenomeQuest, Inc. is the leading sequence informatics company providing search, content, and analysis functions to manage and mine the world's sequence data. Backed by a continually-updated collection of databases, GenomeQuest delivers confident sequence search to it's over 150 customers of leading life science companies and IP law firms, worldwide.



Integrity Ready
Partner



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