

CYBIONIX

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Bioinformatics

Global Bioinformatics Directory

Headlines

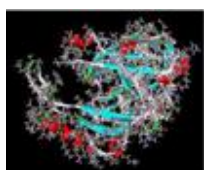
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Bioinformatics

A computerized store house of data that provide a standardized way for locating, adding, and changing data.

1. Object-oriented databases
Unlike rational databases ,uses tubular structures , object oriented databases attempt to model the structure of a given data set that as closely as possible. In doing so , object-oriented databases tend to reduce the appearance of duplicated data and the complexity of query structure often found in rational database

2. Rational databases

Organizes informations into tables where each column represents the field of informations that can be stored in a single record. Each row in the table corresponds to a single record. A single database can have many tables and a query languages is used to access the data.

Primary Database

1. Genome Database
 1. Sequence Database
 2. Structural Database
2. Protein Database
 1. Structural Database
3. Complex Database
 1. Protein Nucleic acid Complex Database

Secondary Database

1. Protein Database
 1. Sequence Database
2. Complex Database
 1. Protein Nucleic Acid Interaction Database

Bioinformatics Search

Section Links

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Definitions

Primary Databases:

Databases consisting of data derived experimentally such as nucleotide sequences and three dimensional structures are known as primary databases.

Secondary Databases:

Those data that are derived from the analysis or treatment of primary data such as secondary structures, hydrophobicity plots, and domain are stored in secondary databases

Online Database Links Prokaryotic Genomes

- [MAGPIE: Multipurpose Automated Genome Project Investigation Environment](#)
- [Microbial Genome Databases \(MBGD\)](#)
- [Comparative Genome Analysis in P. Brok Laboratory](#)
- [TIGR: The Comprehensive Microbial Resource](#)
- [U.S Dept. of Energy Joint Genome Initiative](#)

Genomic Databases of Model Organisms

- [Arbidopsis Thaliana Genome DIsplayer](#)
- [A. Thaliana Information Resource TAIR](#)
- [Caenorhabditis Elegans \(worm\) Database](#)
- [C. Elegans Chromosomes](#)
- [C. Elegans Genome Project](#)
- [C. Elegans Proteome Database](#)
- [Dictyostelium Discoideum Genome Information](#)
- [Drosophila Melanogaster Berkeley Drosophila Genome Project](#)
- [D. Melanogaster Chromosomes](#)
- [D. Melanogaster. Flybase, a Genomic Database](#)
- [E. Coli Genome and Proteome Database \(GenProtEC\)](#)
- [E. Coli Index](#)
- [E. Coli Genome Project](#)
- [Sacchhromyces cerevisiae 16 Chromosomes](#)
- [S. Cerevisiae, YPD Yeast Proteome Database](#)
- [S. Cerevisiae, \(Budding Yeast\) Database SGD](#)

Genome Databases

- [Genome Databases at NCBI \(index\)](#)
- [Genome Databases at NCBI \(Entrez\)](#)
- [Genome Databases at NCBI \(PMGif\) Genome List in NIH](#)
- [Mitochondrial DNA Database MitBASE](#)
- [Mouse \(Mus musculus\) genome informatics](#)
- [Plant Genome Project supported by the plant genome initiative of US National science Foundation](#)
- [Organelle Genome Sequences \(PMGif\)](#)
- [Organelle Genome Sequences \(PIR\)](#)
- [Parasites Genome Database and Genome Research resources](#)
- [Retroviral Genotyping and Analysis](#)
- [Rice \(Oryza Sativa\) Genome Project](#)

Human and Mouse Genome Comparisons

- [Celera Genomics](#)
- [Cooperative of Human Linkage Center: Mouse-clickable Map of Chromosome](#)
- [Draft Human Genome Browser](#)
- [Human Sequence Polimorphisms, Mutation and Mapping](#)

- Human EST Project
- Human Genome Resources at NCBI
- Human Genome Research Sites Provided by Oak Ridge National Lab
- Mouse Chromosomes:mouse-Clickable map
- Online Inheritance in Man: Johns Hopkins University and NCBI
- Whitehead Institute of Biomedical Research

Gene and Genome Relationship and Proteome Analysis

- Alfresco:Visualization Tool for Genome Comparison
- Allegens.org:A Comparative gene Index(catalog) derived from EST and Predicted Genes
- CGAP:Cancer Genome Anatomy Project
- COG:Cluster of Orthologous group A Gene Classification System
- DOGS:Databases of Genome sizes
- E-CELL A modelling and Simulation Environment for Biochemical and Genetic Processes
- FAST_PAN for automatic searches of online EST Database to Identify new Family Members
- GeneCensus Genome Comparison by Encoded Protein Structures
- GeneQuiz:An Integrated System for large Scale Biological Sequence Analysis and Data Management
- Gene and Disease:Map Location on Human Chromosomes
- Genome Channel at Oak Ridge National Laboratories
- GOLD: Genome Online Database
- IMGT: ImMunoGeneTics Database
- Specializing in Immunoglobulin, T-Cell Receptor, and Major Histocompatibility Complex(MHC)of all Vertebrate Species
- KEGG:Kyto Encyclopedia of Gene and Genomes
- MIA:Molecular Information Agent
- Orthologous Gene Alignment at TIGR
- PEDANT: A Protein Extraction, Description and Analysis Tool
- SEQUEST for Identification of Proteins Following Mass Spectrometry
- STRING:Search Tool for Recurring Instances of Neighboring Genes
- Taxonomy Browser at NCBI arranges genomes taxonomically for sequence retrieval
- UniGene System Gene Oriented Clusters of GeneBank Sequence
- Usefull for Gene Identification
- U.S Dept. of Agriculture Research Service Reference Site for Plant and Animal Genome

Metabolism and Regulation,Functional Genomics

- 2DGel Analysis of Protein: List of Organism
- AlignAce for Promoter Analysis of coordinately regulated Genes
- Array Express Database at European Bioinformatics Institute for Microarray Analysis
- BRITE:Data Base of Protein-Protein interaction and Cross Reference Links
- Ecocys Electronic Encyclopedia of Gene and Metabolism of *E. Coli*
- EpoDBis:A Database of Gene that Relate to Vertebrate Red Blood Cells(Erythropoiesis)
- Expression Profiler Tool for Analysis and Clustering of Gene Expression and Sequence Data
- Functional Genomics Sites
- GeneCensus Genome Comparisons by Encoded Protein Structures
- GENECLUSTER
- GeneX: A Collaborative Internet Database and Toolset for Gene Expression Data

- MetaCus metabolic Encyclopedia
- Microarray Guide
- Microarray Project at NCBI
- Microarray Software
- Microarrays.org: A new Public source for Microarraying information,tools,and Protocols
- SMART: for the Study of Genetically mobile protein Domains
- SWISS-2DPAGE:Two Dimentional Polyacrylamide Gel Electrophoresis Database
- TIGR: Annotation and Gene Indexing Resources,including anlysis of the transcribed sequence represented in the Public EST
- Databases
- WIT:Interactive Metabolic Reconstructionon the Web
- Yeast Transcriptome
- Yeast Genome on a Chip

Gene Nomenclature, Functional Characterization,and Genome Database Development

- *A Thaliana* Nomenclature
- GAIA: Genome Annotation and Information Analysis
- GeneQuiz: An Integrated System for Large-Scale Biological Sequence Analysis and Data Management
- GFF (Gene Finding Features):Specificationfor Describing Gene and other features of Genome
- GO (Gene Ontology) controlled vocabulary
- K2 System for support of distributed Heterogeneous Database and Information Resource Integration
- Kleisli Project: A Tool for Broad-Scale Integration of Databanks across the Interner
- MAGPIE: Multipurpose Automated Genome Project Investigation Environment
- MAGPIE: Multipurpose Automated Genome Project Investigation Environment(tools)
- Mendel Plant Gene NomenClature Database
- RefSeq and LocusLink:A Curated set of Reference Sequence with map Locations,a Foundation for Functional Annotation of the
- Human Genome
- TAMBIS: A Conceptual model of Molecular Biology andBioinformatics and Methods for Querying the Model

RNA Databases

- Compilation of tRNA sequences and sequence of tRNA genes
- Small RNA databases,Baylor College of Medicine
- RDP [the Ribosomal Database Project]
- Structure of small ribosomal subunit RNA
- Structure of large ribosomal subunit RNA
- RNA modification database
- 16SMDB and 23SMDB [16S and 23S RNA mutation database]
- 5S Ribosomal RNA dtabank
- 5S rRNA database
- Comparative RNA
- GenLang linguistic sequence analyzer
- Gobase for mitochondrial sequences
- Intron analysis-Saccharomyces cerevisiae
- tRNA genes, higher plant mitochondria
- MFOLD minimus energy RNA configuration
- Nuclic acid database and structure resource
- Pseudobase-pseudoknot database
- Ribonuclease P database
- Ribosomal RNA mutation database
- Ribo Web Project-3D models of E-coli 30S ribosomal subunits and 16S rRNA
- RNA aptamer sequence database
- RNA editing websites, UCLA

- RNA editing, uridine insertion/deletion
- RNA modification database
- RNA secondary structures, Group I introns, 16SrRNA. 23SrRNA
- RNA structure database
- RNAworld at IMB Jena
- rRNA- Database of ribosomal subunit sequences
- Signal recognition particle database
- Small RNA database
- snoRNA database for *S.cerevisiae*
- tmRNA database
- tmRNA website
- tRNAscan-SE search server
- tRNA and tRNA gene sequence
- uRNA database
- Vienna RNA package for RNA secondary structure prediction and comparison
- Viroid and viroid-like RNA sequences

Mutation Databases

- HAMSTeRS [haemophilia A mutation databases]and factor VIII mutation databases]
- Haemophilia B [point mutation and short additions and deletions]
- Human p53, hprt and lacZ genes and mutations
- PAH mutation analysis [disease-producing human PAH loci]
- 16SMDB and 23SMDB [16S and 23S RNA mutation database]
- Androgen receptor gene mutation database
- p53 mutation in human tumors and cell lines

Immunogenic and Receptor Databases

- IMGT [immunogenetics databases]
- Glucocorticoid receptor resource
- Thyroid hormone receptor resources

Protein Structural Databases

- PDB: Protein Data Bank
- Molecular Modelling Database(MMDB)
- Structural classification of protein at Cambridge University(SCOP)
- Biomolecular structure and modelling group at the University college ,London
- European Bioinformatics institute Hinxton,Cambridge
- Swiss Institute of Bioinformatics

Database of Patterns and Sequence of Protein Families

- D-Ali
- 3D-PSSM
- BLOCKS
- COGS: Clusters of Orthologous Group Database and Search site
- DIP:Database of Interacting Protein
- eMOTIF
- HOMSTRAD
- HSSP:Sequence similar to proteins of known structure
- INTERPRO: Integrated resource of protein domain and functional sites
- LPFC
- Pfam
- PIR
- PRINTS
- PROCLASS
- Prosite