



## Now you, too, can access the human genome!

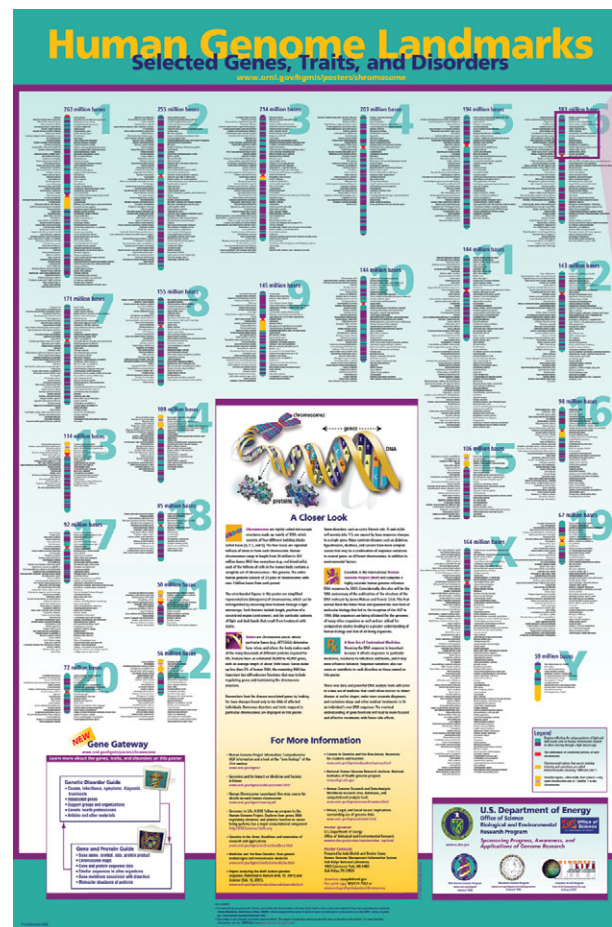
**G**ene Gateway, a Web companion to the popular Human Genome Landmarks poster, is a collection of guides and tutorials designed to help students and laypersons learn about the genes, traits, and proteins studied by scientists.

Gene Gateway introduces various Internet tools that anyone can use to investigate genetic disorders, chromosomes, genome maps, genes, sequence data, genetic variants, and molecular structures.

The Web site was developed by the U.S. Department of Energy's Human Genome Management Information System (HGMIS) to increase public understanding of and accessibility to genome science resources.

The Human Genome Landmarks poster, also developed by HGMIS, depicts the 24 human chromosomes and many genes associated with certain disorders and traits. Links to an online form for ordering a free copy of this poster are available from the Gene Gateway Website:

## 1. Select a trait or disorder from the Human Genome Landmarks poster.



- Multiple myeloma oncogene
- Orofacial cleft
- Leukemia, acute nonlymphocytic
- Fanconi anemia, complementation group E
- Ankylosing spondylitis
- Stickler syndrome
- OSMED syndrome
- Weissenbacher-Zweymuller syndrome
- Deafness, nonsyndromic sensorineural
- Dyslexia
- Hemochromatosis** ←
- Porphyria variegata
- Pemphigoid, susceptibility to
- Immune suppression to streptococcal antigen
- Sialidosis, types I and II
- Panbrochiolitis, diffuse
- Psoriasis susceptibility

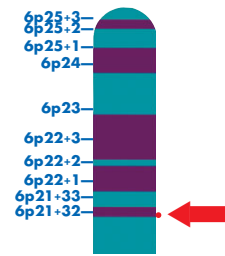


## 2. Use Web resources and tutorials at Gene Gateway to learn about associated genes and proteins.

### a. Explore databases of genes

- Online Mendelian Inheritance in Man (OMIM)
- NCBI LocusLink
- Genome Database (GDB)
- GeneCards

### b. Browse the genome for a gene's location

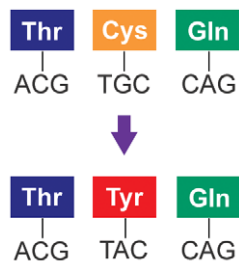


- NCBI Map Viewer
- GDB Mapview
- Ensembl Genome Browser
- UCSC Genome Browser

### c. View the sequence of a gene or protein

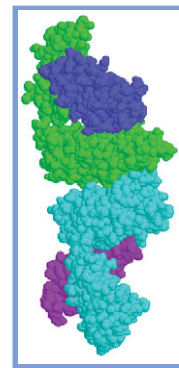
- NCBI Sequence Databases
- SWISS-PROT & TrEMBL
- Protein Information Resource-Protein Sequence Database (PIR-PSD)

### d. Understand mutations that cause genetic disorders



- OMIM Allelic Variants
- Human Gene Mutation Database
- HGVbase
- NCBI dbSNP

### e. Examine protein structures



See below for protein structure sources.

- NCBI Molecular Modeling Database
- Protein Data Bank (PDB)

### f. Access related resources

- Tools for Sequence-Similarity Searching
- Databases of Biomedical Literature
- Genetic Disorder Information
  - Support Groups
  - Genetic Testing
  - Clinical Trials
  - Genetic Health Professionals

DOE Genome Research Programs: [DOEgenomes.org](http://DOEgenomes.org)



U.S. Department of Energy (DOE)  
Office of Science  
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Genome Research Programs



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Gene Gateway: [www.ornl.gov/hgmis/posters/chromosome](http://www.ornl.gov/hgmis/posters/chromosome)