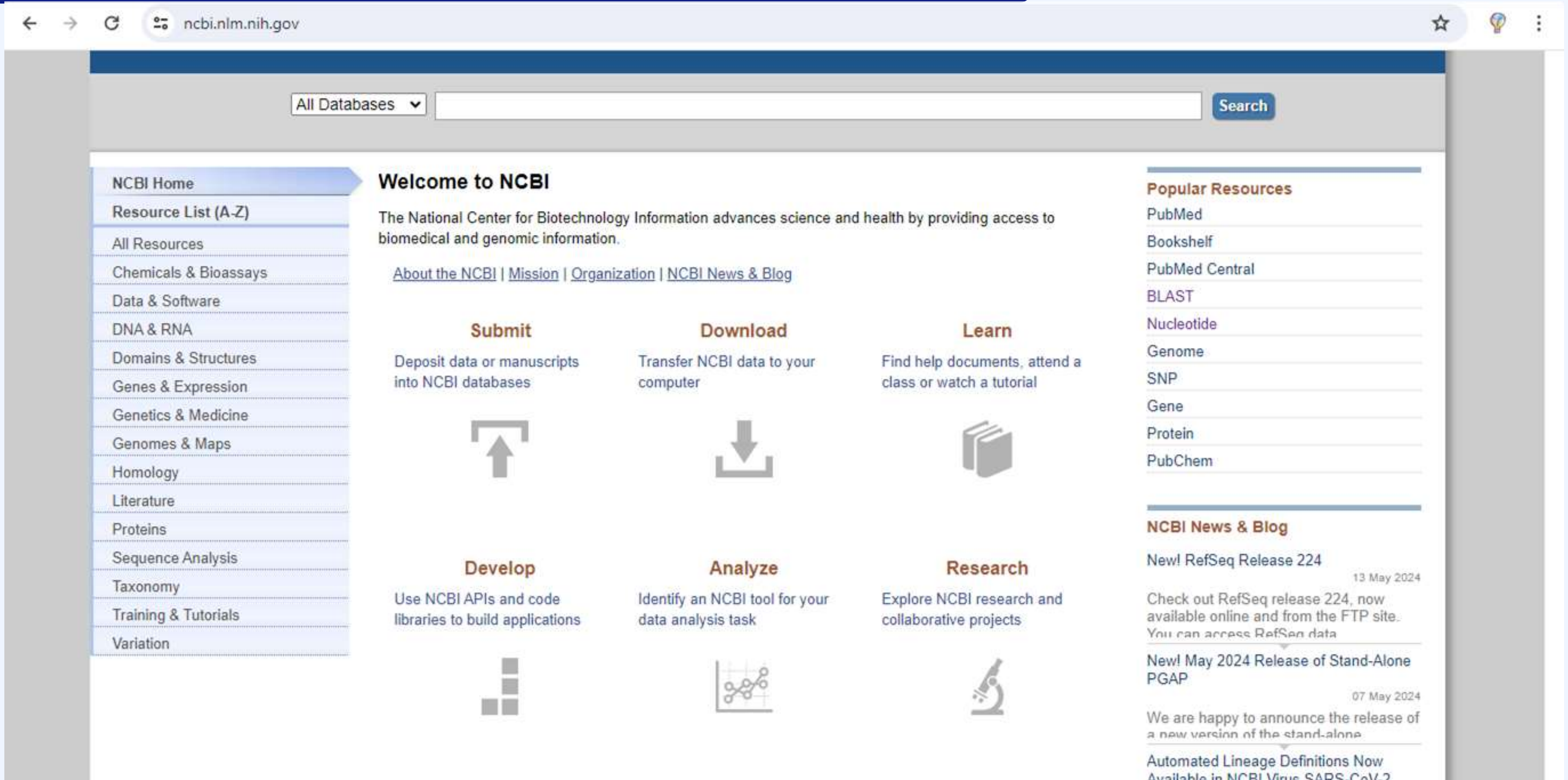


GenBank Database

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Ph.D

INTRODUCTION-NCBI



The screenshot shows the NCBI website homepage. At the top, there is a navigation bar with a search box and a "Search" button. Below the search bar is a "Welcome to NCBI" section with a brief description of the center's mission. To the left is a vertical navigation menu with various categories. In the center, there are six main service tiles: Submit, Download, Learn, Develop, Analyze, and Research, each with an icon and a short description. To the right, there are two sections: "Popular Resources" listing various databases and tools, and "NCBI News & Blog" featuring recent news items with dates.

ncbi.nlm.nih.gov

All Databases Search

NCBI Home

Resource List (A-Z)

All Resources

Chemicals & Bioassays

Data & Software

DNA & RNA

Domains & Structures

Genes & Expression

Genetics & Medicine

Genomes & Maps

Homology

Literature

Proteins

Sequence Analysis

Taxonomy

Training & Tutorials

Variation


Welcome to NCBI

The National Center for Biotechnology Information advances science and health by providing access to biomedical and genomic information.

[About the NCBI](#) | [Mission](#) | [Organization](#) | [NCBI News & Blog](#)


Submit

Deposit data or manuscripts into NCBI databases




Download

Transfer NCBI data to your computer




Learn

Find help documents, attend a class or watch a tutorial




Develop

Use NCBI APIs and code libraries to build applications




Analyze

Identify an NCBI tool for your data analysis task



Research

Explore NCBI research and collaborative projects



Popular Resources

- PubMed
- Bookshelf
- PubMed Central
- BLAST
- Nucleotide
- Genome
- SNP
- Gene
- Protein
- PubChem

NCBI News & Blog

New! RefSeq Release 224 13 May 2024

Check out RefSeq release 224, now available online and from the FTP site. You can access RefSeq data

New! May 2024 Release of Stand-Alone PGAP 07 May 2024

We are happy to announce the release of a new version of the stand-alone

Automated Lineage Definitions Now Available in NCBI Virus SARS-CoV-2

INTRODUCTION

- **GenBank is a comprehensive public database of nucleotide sequences and supporting bibliographical and biological annotations.**
- **Built and Developed by NCBI.**
- **It was created in 1979 at the Los Alamos National Laboratory and was called the Los Alamos Sequence Database.**
- **It was renamed GenBank in 1982 and**



- **GenBank is one of the primary database like EMBL and DDBJ**
- **The content includes genomic DNA, mRNA, cDNA, raw sequence data etc.**
- **In GenBank text based search method is used.**
- **GenBank file format is divided into three sections having .gb extension**

A) Header

B) Feature

C) Sequence

INTRODUCTION

```
LOCUS       DQ408531                762 bp    DNA     linear   PRI 08-MAR-2006
DEFINITION  Homo sapiens prion protein PrP (PRNP) gene, complete cds.
ACCESSION   DQ408531
VERSION     DQ408531.1  GI:89160953
KEYWORDS    .
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Euarchontoglires; Primates; Haplorrhini;
            Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 762)
AUTHORS     Zhang, J., Liu, Y., Chen, H., Jiang, H., Lu, N., Zhu, X., Xie, Q., Cai, X.
            and Liu, X.
TITLE       Analysis and comparison of bovine, ovine and human doppel gene Prnd
JOURNAL     Unpublished

FEATURES             Location/Qualifiers
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                     /db_xref="taxon:9606"
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                     /gene="PRNP"
     mRNA              1..762
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                     /db_xref="GI:89160954"
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OGNRYFPQCGCGWQPHGGGWGQPHGGGWGQPHGGGWGQPHGGGWGQCGGTHSQWPKP
SKPKTNAIKHMLGALLAGAVVCGLGQYDLGSAISRPIIHFGSDYEDRYRENHRYPNQ
VZYRPMDEHSNQNRFVHDCVNITIKQHTVTTTKQENFTETDVKQIERVVEQMCITQY
ERESQAYYQRGSSMVLFSPPVILLISFLIPLIVG"

ORIGIN
1  atggogaacc ttggotgctg gatgotggtt ctctttgtgg ccacatggag tgaootgggc
61  ctctgcaaga agcgoccgaa gootggagga tggaacactg ggggcagccg ataccogggg
121  cagggcagcc ctggaggcaa ccgctaccca cctcagggcg gtggtggctg ggggcagcct
601  acgacgтта agatgatgga gcgcggtggt gagcagatgt gtatcaccca gtacgagagg
661  gaatotoagg cctattacca gagaggatcg agcatggtcc tctctctctc tccacctgtg
721  atctctctga tctctctctc catctctctg atagtgggat ga
//
```

header

features

sequence

metadata

data

EXERCISE QUESTIONS

- **Search for gene PRNP for homo sapiens?**
- **On which chromosome it is located?**
- **What other names this gene have?**
- **How the gene is originated?**
- **What is function of the gene?**
- **What is RefSeq status of the entry?**
- **What is strand information of gene?**
- **How many single nucleotide variants belong to this gene?**
- **How many transcript it is having?**
- **Retrieve the FASTA seq of PRNP gene and report length of sequence?**
- **Retrieve CDS sequence from largest transcript ?**
- **What kind of phenotype it is associated with?**
- **To which protein it is interacted?**
- **In which tissue it is highly expressed?**
- **What are the molecular functions, Biological processes and cellular component of PRNP gene?**

Assignment for-gene FMRI



**THANK
YOU!**

ANY QUESTIONS?