

Поиск в нуклеотидных БД

С.А.Спирин, 14 октября 2025



EMBL-EBI

(Европа)

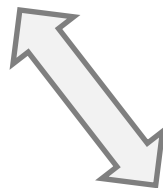


(США)

ENA



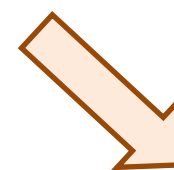
GenBank



DDBJ



(Япония)



RefSeq

Заглавная страница NCBI

National Center for Biotechnology Information

ncbi.nlm.nih.gov

An official website of the United States government [Here's how you know](#)

NIH National Library of Medicine
National Center for Biotechnology Information

Log in

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

Welcome to NCBI

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

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Develop

Use NCBI APIs and code

Analyze

Identify an NCBI tool for

Research

Explore NCBI research

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- [PubMed](#)
- [Bookshelf](#)
- [PubMed Central](#)
- [BLAST](#)
- [Nucleotide](#)
- [Genome](#)
- [SNP](#)
- [Gene](#)
- [Protein](#)
- [PubChem](#)

NCBI News & Blog

New Annotations in RefSeq

24 Oct 2023

In July, August, and September, the NCBI Eukaryotic Genome Annotation



National Library of Medicine

National Center for Biotechnology Information

Log in

Nucleotide

Nucleotide v

[Advanced](#)

Search

[Help](#)

Вам сюда



Nucleotide

The Nucleotide database is a collection of sequences from several sources, including GenBank, RefSeq, TPA and PDB. Genome, gene and transcript sequence data provide the foundation for biomedical research and discovery.

Using Nucleotide

[Quick Start Guide](#)

[FAQ](#)

[Help](#)

[GenBank FTP](#)

[RefSeq FTP](#)

Nucleotide Tools

[Submit to GenBank](#)

[LinkOut](#)

[E-Utilities](#)

[BLAST](#)

[Batch Entrez](#)

Other Resources

[GenBank Home](#)

[RefSeq Home](#)

[Gene Home](#)

[SRA Home](#)

[INSDC](#)

Advanced search на NCBI

Advanced search - Nucleotide - x

ncbi.nlm.nih.gov/nuccore/advanced

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Log in

Nucleotide Home Help

Nucleotide Advanced Search Builder

i Filters activated: RefSeq. [Clear all](#)

Use the builder below to create your search

[Edit](#) [Clear](#)

Builder

All Fields [Show index list](#)

AND All Fields [Show index list](#)

Search or [Add to history](#)

History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
--------	----------------	-------	-------------	------

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Advanced search на NCBI

The screenshot shows the NCBI Nucleotide Advanced Search page. The browser address bar displays `ncbi.nlm.nih.gov/nuccore/advanced`. The page header includes the NIH logo, the text "National Library of Medicine", and a "Log in" button. A dropdown menu is open, listing various search fields: Accession, All Fields (highlighted), Assembly, Author, BioProject, BioSample, Breed, Component Accession, Cultivar, Division, EC/RN Number, Feature key, Filter, Gene Name, Isolate, Issue, Journal, Keyword, Modification Date, Organism, and All Fields. The main search area contains a large text input field labeled "our search" and a "Clear" link. Below this, there are two rows of search criteria, each with a dropdown menu set to "All Fields" and a "Show index list" link. A "Search" button and a link to "Add to history" are visible. At the bottom, there is a "History" section with a table that has columns for "Search", "Add to builder", "Query", "Items found", and "Time".

Advanced search - Nucleotide - x

ncbi.nlm.nih.gov/nuccore/advanced

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NIH National Library of Medicine

Log in

Nucleotide Home

Nucleotide Advanced

Filters activated: RefSeq

Use the

Edit

Builder

our search

Clear

All Fields

AND All Fields

Search or [Add to history](#)

History [Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
--------	----------------	-------	-------------	------

Запись банка RefSeq

LOCUS NZ_CP012604 355432 bp DNA circular CON 30-OCT-2022
DEFINITION Leptospira interrogans serovar Hardjo str. Norma voucher Leptospira
interrogans isolate Cattle chromosome II, complete sequence.
ACCESSION NZ_CP012604
VERSION NZ_CP012604.1
DBLINK BioProject: PRJNA224116
BioSample: SAMN03853357
Assembly: GCF_001293065.1
KEYWORDS RefSeq.
SOURCE Leptospira interrogans serovar Hardjo str. Norma
ORGANISM Leptospira interrogans serovar Hardjo str. Norma
Bacteria; Spirochaetes; Leptospirales; Leptospiraceae; Leptospira.
REFERENCE 1 (bases 1 to 355432)
AUTHORS Cosate,M.R., Soares,S.C., Mendes,T.A., Raittz,R.T., Moreira,E.C.,
Leite,R., Fernandes,G.R., Haddad,J.P. and Ortega,J.M.
TITLE Whole-Genome Sequence of Leptospira interrogans Serovar Hardjo
Subtype Hardjoprajitno Strain Norma, Isolated from Cattle in a
Leptospirosis Outbreak in Brazil
JOURNAL Genome Announc 3 (6), e01302-15 (2015)
PUBMED 26543126
REMARK Publication Status: Online-Only
REFERENCE 2 (bases 1 to 355432)
AUTHORS Cosate,M.R.V., Soares,S.C., Mendes,T.A., Fernandes,G., Raitzz,R.T.,
Leite,R.C., Haddad,J.P.A., Moreira,E.C. and Ortega,J.M.
TITLE Direct Submission
JOURNAL Submitted (02-SEP-2015) Preventive Veterinary Medicine, Federal
University of Minas Gerais, Av Antonio Carlos, Belo Horizonte,
Minas Gerais 31270-901, Brazil

В форме поиска NCBI поле DEFINITION
называется Title

Search builder

Advanced search - Nucleotide - x

ncbi.nlm.nih.gov/nuccore/advanced

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 **National Library of Medicine**
National Center for Biotechnology Information

Log in

Nucleotide Home Help

Nucleotide Advanced Search Builder

(chromosome[Title]) AND Leptospira[Organism]

[Edit](#) [Clear](#)

Builder

Title

chromosome

Show index list

AND

Organism

Leptospira

Show index list

AND

All Fields

Show index list

Search

 or [Add to history](#)

History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time

Результат поиска

Search results for: (chromosome[Title]) AND leptospira[Organism]

NIH National Library of Medicine
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Search: (chromosome[Title]) AND leptospira[Organism]

Items: 1 to 20 of 509

1. [Leptospira interrogans strain CUDO8 chromosome I map unlocalized](#)
[B_tig00000952_np1212, whole genome shotgun sequence](#)
50,270 bp linear DNA
Accession: NZ_NKYG02000004.1 GI: 2592316042
[Assembly](#) [BioProject](#) [BioSample](#) [Protein](#) [Taxonomy](#)
[GenBank](#) [FASTA](#) [Graphics](#)

2. [Leptospira interrogans strain CUDO8 chromosome II, whole genome shotgun sequence](#)
357,163 bp circular DNA
Accession: NZ_NKYG02000002.1 GI: 2592316016
[Assembly](#) [BioProject](#) [BioSample](#) [Protein](#) [Taxonomy](#)
[GenBank](#) [FASTA](#) [Graphics](#)

Top Organisms [Tree]
Leptospira interrogans (214)
Leptospira borgpetersenii (156)
Leptospira noguchii (38)
Leptospira santarosai (20)
Leptospira kirschneri (16)
All other taxa (65)
More...

Find related data
Database: Select
Find items

Search details

Результат поиска, ограниченный на RefSeq

Search results for: (chromosome[Title]) AND leptospira[Organism]

NIH National Library of Medicine
National Center for Biotechnology Information

Nucleotide search results for: (chromosome[Title]) AND leptospira[Organism]

Items: 1 to 20 of 245 ← Число находок

Filters activated: RefSeq. [Clear all](#)

1. [Leptospira interrogans strain CUDO8 chromosome I map unlocalized](#)
[B_tig00000952_np1212, whole genome shotgun sequence](#)
50,270 bp linear DNA
Accession: NZ_NKYG02000004.1 GI: 2592316042
[Assembly](#) [BioProject](#) [BioSample](#) [Protein](#) [Taxonomy](#)
[GenBank](#) [FASTA](#) [Graphics](#)

2. [Leptospira interrogans strain CUDO8 chromosome II, whole genome shotgun sequence](#)
357,163 bp circular DNA
Accession: NZ_NKYG02000002.1 GI: 2592316016
[Assembly](#) [BioProject](#) [BioSample](#) [Protein](#) [Taxonomy](#)
[GenBank](#) [FASTA](#) [Graphics](#)

Results by taxon

Top Organisms [Tree]

- Leptospira interrogans (103)
- Leptospira borgpetersenii (76)
- Leptospira noguchii (18)
- Leptospira weilii (8)
- Leptospira kirschneri (8)
- All other taxa (32)

Find related data

Database: [Select](#)

Find items

Search details

Поиск в нуклеотидных БД на сайте NCBI

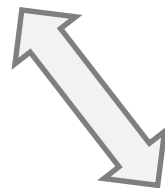
- Два банка: GenBank и RefSeq
 - GenBank — архивная БД. Много лишнего
 - RefSeq — частично автоматическая, частично курируемая.
Геномы можно искать там (но лучше через NCBI genomes)
- Чтобы искать по полю “Definition”, нужно выбрать “Title”
- В запросах нельзя использовать маски (т.е. *)



ENA



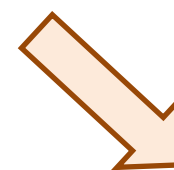
GenBank



DDBJ



(Япония)



RefSeq

ENA Browser

https://www.ebi.ac.uk/ena/browser/home

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ENA

European Nucleotide Archive

Enter text search terms

Search

Examples: histone, BN000065

Enter accession

View

Examples: Taxon:9606, BN000065, PRJEB402

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About

Support

We recommend that you subscribe to the ENA-announce mailing list for updates on services.

For SARS-CoV-2 data submissions, users should contact us in advance of submission at virus-dataflow@ebi.ac.uk for specific advice on options and to access the highest levels of support. We have also launched a [Drag-and-Drop Data Submission Service](#) (currently in Beta) suitable for certain SARS-Cov-2 submissions. We are inviting submitters to try this out. Please contact us at the email above for details.

European Nucleotide Archive

The European Nucleotide Archive (ENA) provides a comprehensive record of the world's nucleotide sequencing information, covering raw sequencing data, sequence assembly information and functional annotation. [More about ENA.](#)

Access to ENA data is provided through the browser, through search tools, through large scale file download and through the API.

Submit

Search

Rulespace

Support

Tweets by ENA

Search & discover ENA data

Latest ENA news

ENA: Improving spatio-temporal annotations Dec 1, 2021, 3:00:00 AM

The European Nucleotide Archive, along with its partners in the International Nucleotide Sequen

[Read more >](#)

ENA: Improving spatio-temporal annotations Jul 16, 2020, 3:00:00 AM

ENA: Improving spatio-temporal annotations on 5th August 2020 Jul 16, 2020, 3:00:00 AM

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ENA Browser

https://www.ebi.ac.uk/ena/browser/search

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European Nucleotide Archive

Examples: histone, BN000065

Examples: Taxon:9606, BN000065, PRJEB402

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Searching ENA

ENA data can be searched and retrieved interactively and programmatically and visualized using the ENA Browser. Please refer to the following sections for more information about the ENA data access functionality with links to more detailed documentation.

Search term:

Uses [EBI Search](#) to perform a free text search across ENA data.



Free Text Search



Advanced Search



Cross References



Sequence Similarity Search



Sequence Version Archive



The European Nucleotide Archive (ENA) is part of the ELIXIR infrastructure

The ENA is an ELIXIR Core Data Resource. [Learn more](#)

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Help & Support

[Research](#)
Publications
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On-demand training
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ENA Browser

https://www.ebi.ac.uk/ena/browser/advanced-search

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ENA

European Nucleotide Archive

Enter text search terms

Search

Examples: histone, BN000065

Enter accession

View

Examples: Taxon:9606, BN000065, PRJEB402

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Advanced Search

Customise your own search query and retrieve a set of ENA records tailored to your search criteria.

All searches are performed against a subset of the archive specified by the *Data type* you choose to search against. You can then build your search query to specify what data you are looking for and select what fields you want to retrieve from your search. There are additional options to include/exclude specific datasets as well as filter the number of results you wish to return.

If you intend to repeat the same search at a later date, you can save this as a Rule using [Rulespace](#). If you want to access the same data programmatically, you can copy the produced curl request and run this yourself against the [ENA Portal API](#).

1

2

3

4

5

Data Type

Query

Inclusion/Exclusion

Fields

Data Filters

Select datatype to build a new search

Data type:

Studies used for nucleotide sequence analyses from reads

Nucleotide sequence analyses from reads

Genome assemblies

Coding sequences

Genome assembly contig sets (WGS)

Transcriptome assembly contig sets (TSA)

Targeted locus study contig sets (TLS)

Environmental samples

Non-coding sequences

Studies used for raw reads

Experiments used for raw reads

Raw reads

Samples

Nucleotide sequences

Rule ID/Name:

[Use a previously defined Rulespace search](#)

[Reset](#)

[Next](#)

The European Nucleotide Archive

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ENA Browser

ebi.ac.uk/ena/browser/advanced-search

Advanced Search

Customise your own search query and retrieve a set of ENA records tailored to your search criteria.

All searches are performed against a subset of the archive specified by the *Data type* you choose to search against. You can then build your search query to specify what data you are looking for and select what fields you want to retrieve from your search. There are additional options to include/exclude specific datasets as well as filter the number of results you wish to return.

If you intend to repeat the same search at a later date, you can save this as a Rule using [Rulespace](#). If you want to access the same data programmatically, you can copy the produced curl request and run this yourself against the [ENA Portal API](#).

1 Data Type

2 Query

3 Inclusion/Exclusion

4 Fields

5 Data Filters

Query:

Reset

Type to filter query params

Taxonomy and related

Geographical location

Geography

Collection event information

Sampling information

Sample state and conditions

AND OR

NCBI Taxonomy

=

Leptosp

Delete

☐ Include subordinate taxa

Leptospira 171

Leptospira abararensis 2810036

Leptospira adleri 2023186

Leptospira ainazelensis 2810034

Leptospira ainlahdjerensis 2810033

+ Add rule

+ Add group

Update query

Обязательно отметить!

Автодополнение названий таксонов

Back

Copy Curl Request

Next

Search

Query:

tax_tree(171)AND description="chromosome"

Reset

Build Query ?

Type to filter query params

Taxonomy and related

Geographical location

Geography

Collection event information

Sampling information

Sample state and conditions

Host information

Sequencing information

Database record

Accessions

Titles, aliases and descriptions

AND OR

+ Add rule + Add group

Description

=

chromosome

Delete

brief sequence description

Update query

Back

Copy Curl Request

Next

Search

Запись банка EMBL (ENA), содержание общее с GenBank, формат другой

ENA Browser <https://www.ebi.ac.uk/ena/browser/api/embl/AE010300.2?lineLimit=1000>

ID AE010300; SV 2; circular; genomic DNA; STD; PRO; 4338762 BP.
XX
AC AE010300; AE011192-AE011588;
XX
PR Project:PRJNA293;
XX
DT 03-FEB-2006 (Rel. 86, Created)
DT 15-MAY-2014 (Rel. 120, Last updated, Version 7)
XX
DE Leptospira interrogans serovar Lai str. 56601 chromosome I, complete
DE sequence.
XX
KW .
XX
OS Leptospira interrogans serovar Lai str. 56601
OC Bacteria; Spirochaetes; Leptospirales; Leptospiraceae; Leptospira.
XX
RN [1]
RP 1-4338762
RX DOI; 10.1038/nature01597.
RX PUBMED; 12712204.
RA Ren S.X., Fu G., Jiang X.G., Zeng R., Miao Y.G., Xu H., Zhang Y.X.,
RA Xiong H., Lu G., Lu L.F., Jiang H.Q., Jia J., Tu Y.F., Jiang J.X., Gu W.Y.,
RA Zhang Y.Q., Cai Z., Sheng H.H., Yin H.F., Zhang Y., Zhu G.F., Wan M.,
RA Huang H.L., Qian Z., Wang S.Y., Ma W., Yao Z.J., Shen Y., Qiang B.Q.,
RA Xia Q.C., Guo X.K., Danchin A., Saint Girons I., Somerville R.L., Wen Y.M.,
RA Shi M.H., Chen Z., Xu J.G., Zhao G.P.;
RT "Unique physiological and pathogenic features of Leptospira interrogans
RT revealed by whole-genome sequencing";
RL Nature 422(6934):888-893(2003).
XX
RN [2]
RP 1-4338762
RA Zhang Y., Zhang H., Wang S., Xu G., Guo X., Zhao G., Shi M.,

Поиск на сайте ENA

- Нет RefSeq ☹️
- Содержание (почти) то же, что в GenBank. Форма поиска существенно отличается. Она менее интуитивная, но:
 - Работает автодополнение названий таксонов
 - Описание — “Description” (в разделе “Titles, aliases and descriptions”)
 - Можно использовать маски: звёздочка * заменяет любое количество любых символов