



Cross-reference Search

What is the ENA Cross-reference Search?

The **European Nucleotide Archive** (ENA) cross-reference system holds an array of key cross-references from nucleotide sequence data (**International Nucleotide Sequence Database Collaboration** - INSDC - sequence and sample records) to both services operated at EMBL-EBI and external data archives, such as genome annotations in **Ensembl** and taxonomic treatments in **TreatmentBank** (Plazi TreatmentBank taxonomic treatment collection). This service enables the user to search for available links between different data archives and sequence data at ENA, promoting FAIR (Findable, Accessible, Interoperable and Reusable) and linked open molecular data.

What services are linked through the ENA Cross-reference Search?

The ENA Xref service holds cross-references to a number of external data resources. At the moment of writing 71 resources are actively linked to ENA records, including taxonomic resources, such as **Unite** (Unified system for DNA based fungal species classification) or **TreatmentBank**, literature services, such as **Europe PMC** (Life-Sciences Literature) or **OpenBiodiv** (Open Biodiversity Knowledge Management System), and other EMBL-EBI and ELIXIR resources, such as **UniProt** (a resource of protein sequence and functional information). The links to these resources are frequently

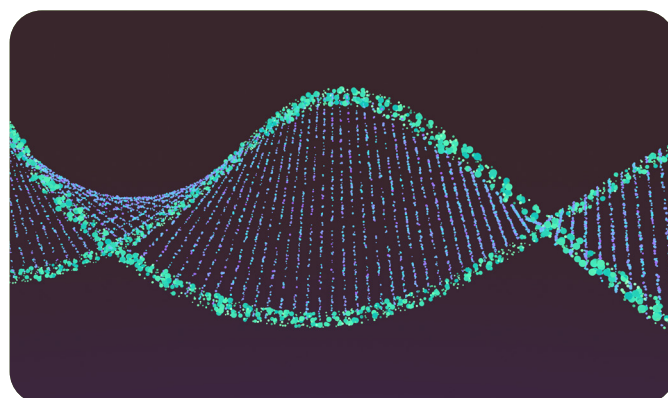
updated, depending on their own release cycle and/or internal processes, with ENA supporting updates as frequently as once a week.


How can you use this service?

The ENA Cross-reference search is available on the ENA website. Any public user can search for linked records either by using the source resource identifier or the INSDC accession. The list of available data resources is available in the source details tab.

In addition to the search enabled through the ENA browser page, the cross-references can also be explored programmatically using the Xref API. More information on how to use the Xref API can be found on the ENA documentation (<https://ena-docs.readthedocs.io/>).

The cross-references are also displayed in the ENA browser in the navigation tab for each available record.





European Nucleotide Archive

Examples: histone, BN000065

Examples: Taxon:9606, BN000065, PRJEB402

[Home](#)
[Submit](#)
[Search](#)
[Rulespace](#)
[About](#)
[Support](#)

Cross-reference Search

The ENA Xref service holds cross-references to a number of external data resources linked to ENA records. These cross-reference sources include both services operated by colleagues at EMBL-EBI (such as [UniProt](#) and [Ensembl](#)) as well as those operated outside EMBL-EBI (including [SILVA](#) and [RFAM](#)).

The update and frequency of each source is dependent on their own release cycle and/or internal processes, with ENA supporting updates as frequently as once a week.

These cross-references can also be explored programmatically using the [Xref API](#).

If you would be interested in registering your resource as part of our cross-reference service, you can request to be added as a new Xref source [here](#) and a member of the team will get into contact with you to discuss your eligibility.

[Search by Source](#)
[Search by ENA record](#)
[Source Details](#)

Xref Source:

TreatmentBank

Accession:

0383962D5D73D66261D

Target:

sequence

Expanded:
☐

Download:

1

-

1

of 1 results in [TEXT](#)

Source Primary Accession	Source Secondary Accession	Target Primary Accession	Target Secondary Accession
0383962D5D73D66261D99239FEBF49...	10.5281/zenodo.3511393	KY913841	

Example of a search to find the INSDC sequences associated with the taxonomic treatment of *Alburnus doriae* Filippi, 1865 available in **TreatmentBank**.

Can new resources be registered in the ENA Cross-reference Search?

Data resources interested in registering their service as part of the ENA cross-reference search, can contact the ENA team to request the addition as a new Xref source through the web form available. A member of the team will get in contact to discuss the scope and the nature of the mappings that can be provided.

