WORKSHOP ON BIOINFORMATICS APPLICATIONS IN GENOMICS SURVEILLANCE OF BACTERIAL ANTIMICROBIAL RESISTANCE

Biological Databases and Resources

Practical Sessions

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Mboalab Biotech | Beneficial Bio

Database Searching Retrieval and Exporting

1. Define a target
2. Identify the right platform
3. Retrieve and store specific data
4. Import Data for downstream analysis

Phase A: Search, Export and Store a biological sequence data from NCBI.

Phase B: Introduction to Benchling, Account creation and exploration of the platform for Basic analysis.

Phase A: Search, Export and Store a biological sequence data from NCBI.

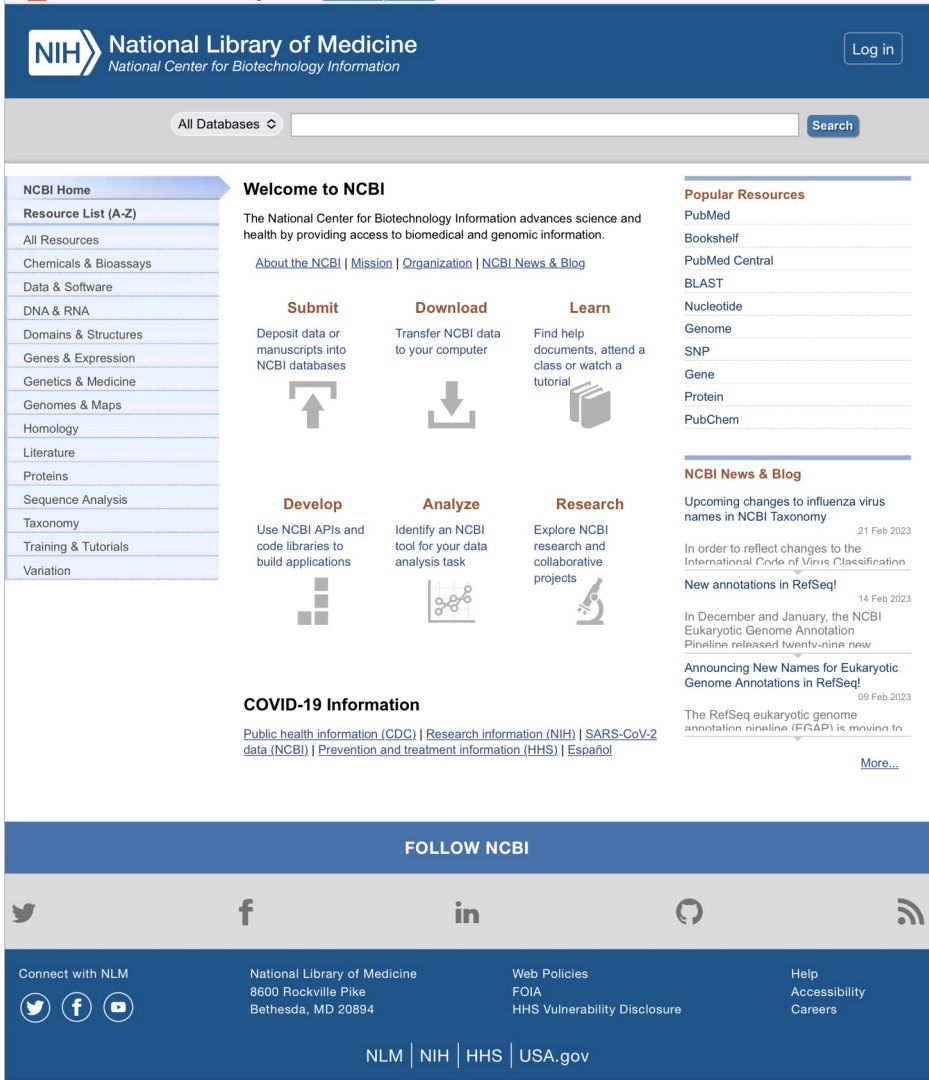
- Open NCBI Website:

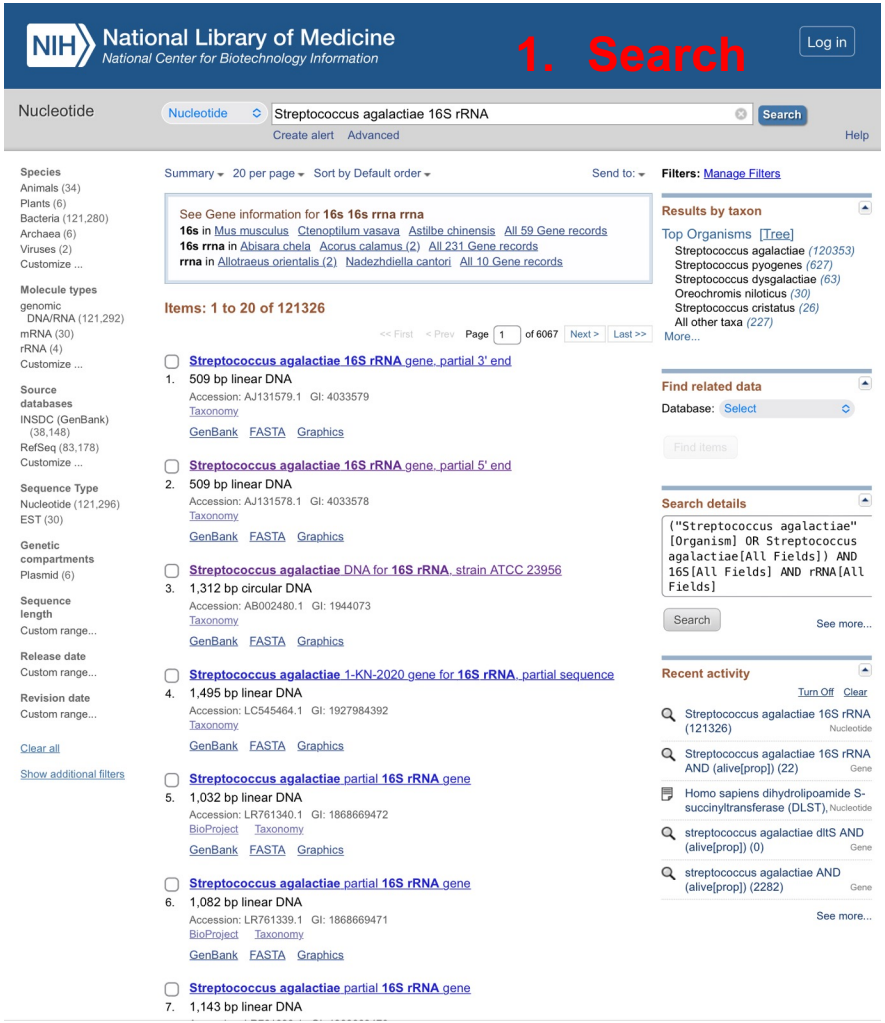
https://www.ncbi.nlm.nih.gov/

- Identify Streptococcus agalactiae

DNA for 16S rRNA, strain ATCC 23956

- Retrieve (Download) the sequence




National Library of Medicine
National Center for Biotechnology Information
1. Search
Log in
Nucleotide
Nucleotide
Streptococcus agalactiae 16S rRNA
Search
Create alert
Advanced
Help
Species
Animals (34)
Plants (6)
Bacteria (121,280)
Archaea (6)
Viruses (2)
Customize ...
Molecule types
genomic DNA/RNA (121,292)
mRNA (30)
rRNA (4)
Customize ...
Source databases
INSDC (GenBank) (38,148)
RefSeq (83,178)
Customize ...
Sequence Type
Nucleotide (121,296)
EST (30)
Genetic compartments
Plasmid (6)
Sequence length
Custom range...
Release date
Custom range...
Revision date
Custom range...
Clear all
Show additional filters
Summary
20 per page
Sort by Default order
Send to:
Filters: Manage Filters
See Gene information for 16s 16s rrna rrna
16s in Mus musculus Ctenoptilum vasava Astilbe chinensis All 59 Gene records
16s rrna in Abisara chela Acorus calamus (2) All 231 Gene records
rrna in Allotraeus orientalis (2) Nadezhdiella cantori All 10 Gene records
Items: 1 to 20 of 121326
<< First < Prev Page 1 of 6067 Next > Last >>
Streptococcus agalactiae 16S rRNA gene, partial 3' end
1. 509 bp linear DNA
Accession: AJ131579.1 GI: 4033579
Taxonomy
GenBank FASTA Graphics
Streptococcus agalactiae 16S rRNA gene, partial 5' end
2. 509 bp linear DNA
Accession: AJ131578.1 GI: 4033578
Taxonomy
GenBank FASTA Graphics
Streptococcus agalactiae DNA for 16S rRNA, strain ATCC 23956
3. 1,312 bp circular DNA
Accession: AB002480.1 GI: 1944073
Taxonomy
GenBank FASTA Graphics
Streptococcus agalactiae 1-KN-2020 gene for 16S rRNA, partial sequence
4. 1,495 bp linear DNA
Accession: LC545464.1 GI: 1927984392
Taxonomy
GenBank FASTA Graphics
Streptococcus agalactiae partial 16S rRNA gene
5. 1,032 bp linear DNA
Accession: LR761340.1 GI: 1868669472
BioProject Taxonomy
GenBank FASTA Graphics
Streptococcus agalactiae partial 16S rRNA gene
6. 1,082 bp linear DNA
Accession: LR761339.1 GI: 1868669471
BioProject Taxonomy
GenBank FASTA Graphics
Streptococcus agalactiae partial 16S rRNA gene
7. 1,143 bp linear DNA
Results by taxon
Top Organisms [Tree]
Streptococcus agalactiae (120353)
Streptococcus pyogenes (627)
Streptococcus dysgalactiae (63)
Oreochromis niloticus (30)
Streptococcus cristatus (26)
All other taxa (227)
More...
Find related data
Database: Select
Find items
Search details
("Streptococcus agalactiae"[Organism] OR Streptococcus agalactiae[All Fields]) AND 16S[All Fields] AND rRNA[All Fields]
Search
See more...
Recent activity
Turn Off Clear
Streptococcus agalactiae 16S rRNA (121326) Nucleotide
Streptococcus agalactiae 16S rRNA AND (alive[prop]) (22) Gene
Homo sapiens dihydrolipoamide S-succinyltransferase (DLST), Nucleotide
streptococcus agalactiae dltS AND (alive[prop]) (0) Gene
streptococcus agalactiae AND (alive[prop]) (2282) Gene
See more...

An official website of the United States government Here's how you know
National Library of Medicine
National Center for Biotechnology Information
2. Retrieve/ Store
Log in
Nucleotide
Nucleotide
Search
Advanced
Help
GenBank
Send to:
Streptococcus agalactiae DNA for 16S rRNA, strain ATCC 23956
GenBank: AB002480.1
FASTA Graphics
Go to:
LOCUS AB002480 1312 bp DNA circular BCT 13-FEB-1999
DEFINITION Streptococcus agalactiae DNA for 16S rRNA, strain ATCC 23956.
ACCESSION AB002480
VERSION AB002480.1
KEYWORDS 16S ribosomal RNA.
SOURCE Streptococcus agalactiae
ORGANISM Streptococcus agalactiae
Bacteria; Bacillota; Bacilli; Lactobacillales; Streptococcaceae; Streptococcus.
REFERENCE 1
AUTHORS Mori,Y., Takahashi,T., Katsumi,M., Katoh,K., Hiramune,T. and Kikuchi,N.
TITLE Phylogenetic analyses of swine isolates of Streptococcus dysgalactiae based on the 16S rDNA sequence
JOURNAL Unpublished
REFERENCE 2 (bases 1 to 1312)
AUTHORS Mori,Y.
TITLE Direct Submission
JOURNAL Submitted (31-MAR-1997) Yukari Mori, School of Veterinary Medicine, Rakuno Gakuen University, Epizootiology; 582 Bunkyodai-Midorimachi, Ebetsu, Hokkaido 069, Japan (Tel:011-386-1112, Fax:011-387-5890)
FEATURES Location/Qualifiers
source 1..1312
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/mol_type="genomic DNA"
/strain="ATCC 23956"
/db_xref="taxon:1311"
rRNA 1..1312
/product="16S ribosomal RNA"
ORIGIN
1 gcttgcacca gtctaatgag ttgcgaacgg gtgagtaacg cgtaggtaac ctaccttata
61 gcgggggata actattggaa acgatagcta ataccgcatg aaagtagaag acccatgtca
121 tctacttaaa aggggcaact gctccactat gagatggacc tgcgttgtat tagctagttg
181 gtgaggtaaa ggctcaccaa ggcgacgata catagccgac ctgagagggt gatcggccac
241 actgggactg agacacggcc cagactccta cgggaggcag cagtagggaa tcttcggcaa
301 tgggggaac cctgaccgag caacgccgcg tgagtgaaga aggtttcgg atcgtaaagc
361 tctgttgtta gagaagaacg gtaatgggag tggaaaatcc attacgtgac ggtaactaac
421 cagaaaggga cggctaacta cgtgccagca gccgcggtta tacgtaggtc ccgagtgttg
481 tccggattta ttgggcgtaa agcgagcgca ggcggtttga taagtctgaa gttaaaggct
541 gtggcttaac catagttcgc tttggaaact gtcaaacttg agtgcagaag ggagagtgg
601 aattccatgt gtagcggtga aatgcgtaga tatatggagg aacaccggtg gcgaaagcgg
661 ctctctggtc tgtaactgac gctgaggctc gaaagcgtgg ggagcaaaca ggattagata
721 ccctggtagt ccacgccgta aacgatgagt gctaggtgtt aggccctttc cggggcttag
781 tgccggctag aacgcattaa gcactccgcc tggggagtac gaccgcaagg ttgaaactca
841 aaggaattga cgggggcccg cacaagcggt ggagcatgtg gtttaattcg aagcaacgcg
901 aagaacctta ccaggtcttg acatccttct gaccggccta gagataggct ttctcttcgg
961 agcagaagtg acaggtggtg catggttgtc gtcagctcgt gtcgtgagat gttgggttaa
1021 gtcccgcaac gagcgcaacc cctattgtta gttgccatca ttaagttggg cactctagcg
1081 agactgccgg taataaaccg gaggaaggtg gggatgacgt caaatcatca tgccccttat
Analyze this sequence
Run BLAST
Pick Primers
Highlight Sequence Features
Find in this Sequence
Related information
Taxonomy
Full text in PMC
LinkOut to external resources
Streptomyces rochei [BacDive]
Ribosomal Database Project II [Ribosomal Database Project II]
SILVA SSU Database [SILVA]
Recent activity
Turn Off Clear
Streptococcus agalactiae DNA for 16S rRNA, strain ATCC 235 Nucleotide
Streptococcus agalactiae 16S rRNA gene, partial 5' end Nucleotide
Streptococcus agalactiae 16S rRNA (121326) Nucleotide
Streptococcus agalactiae 16S rRNA AND (alive[prop]) (22) Gene
Homo sapiens dihydrolipoamide S-succinyltransferase (DLST), Nucleotide
See more...

Phase B: Introduction to Benchling:

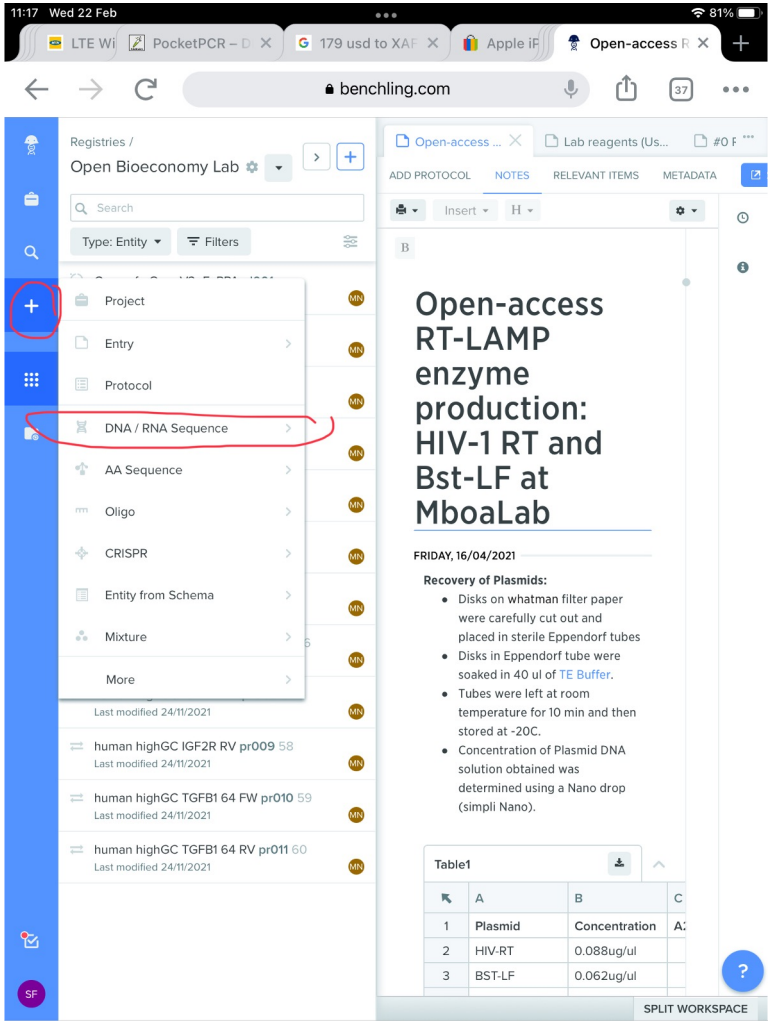
Account creation and exploration of the platform for Basic analysis.

1. Open Benchling Platform: https://benchling.com/signin/welcome
2. Click on sign Up to create an account

Description on the platform.

Quick case study: Primer Design on Benchling

- Go to + sign
- Select DNA / RNA sequence
- Import retrieved sequence


11:17 Wed 22 Feb
81%
benchling.com
Registries /
Open Bioeconomy Lab
Search
Type: Entity
Filters
Project
Entry
Protocol
DNA / RNA Sequence
AA Sequence
Oligo
CRISPR
Entity from Schema
Mixture
More
Last modified 24/11/2021
human highGC IGF2R RV pr009 58
Last modified 24/11/2021
human highGC TGFB1 64 FW pr010 59
Last modified 24/11/2021
human highGC TGFB1 64 RV pr011 60
Last modified 24/11/2021
Open-access ...
Lab reagents (Us...
#0 F
ADD PROTOCOL
NOTES
RELEVANT ITEMS
METADATA
Insert
H
Open-access RT-LAMP enzyme production: HIV-1 RT and Bst-LF at MboaLab
FRIDAY, 16/04/2021
Recovery of Plasmids:
Disks on whatman filter paper were carefully cut out and placed in sterile Eppendorf tubes
Disks in Eppendorf tube were soaked in 40 ul of TE Buffer.
Tubes were left at room temperature for 10 min and then stored at -20C.
Concentration of Plasmid DNA solution obtained was determined using a Nano drop (simpli Nano).
Table1
A
B
C
1
Plasmid
Concentration
2
HIV-RT
0.088ug/ul
3
BST-LF
0.062ug/ul
SPLIT WORKSPACE