Resource Summary Report

Generated by NIF on Apr 17, 2025

ProPortal

RRID:SCR_006112
Type: Tool

Proper Citation

ProPortal (RRID:SCR_006112)

Resource Information

URL: http://proportal.mit.edu/

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Description: ProPortal is a database containing genomic, metagenomic, transcriptomic and field data for the marine cyanobacterium Prochlorococcus. Our goal is to provide a source of cross-referenced data across multiple scales of biological organization--from the genome to the ecosystem--embracing the full diversity of ecotypic variation within this microbial taxon, its sister group, Synechococcus and phage that infect them. The site currently contains the genomes of 13 Prochlorococcus strains, 11 Synechococcus strains and 28 cyanophage strains that infect one or both groups. Cyanobacterial and cyanophage genes are clustered into orthologous groups that can be accessed by keyword search or through a genome browser. Users can also identify orthologous gene clusters shared by cyanobacterial and cyanophage genomes. Gene expression data for Prochlorococcus ecotypes MED4 and MIT9313 allow users to identify genes that are up or downregulated in response to environmental stressors. In addition, the transcriptome in synchronized cells grown on a 24-h light-dark cycle reveals the choreography of gene expression in cells in a "natural" state. Metagenomic sequences from the Global Ocean Survey from Prochlorococcus, Synechococcus and phage genomes are archived so users can examine the differences between populations from diverse habitats. Finally, an example of cyanobacterial population data from the field is included.

Abbreviations: ProPortal

Synonyms: Prochlorococcus Portal

Resource Type: database, data or information resource

Defining Citation: PMID:22102570

Keywords: genomic, metagenomic, transcriptomic, field data, marine cyanobacterium, genome, ecosystem, ecotypic variation, microbial taxon, phage, genome, gene, orthologous gene cluster, cyanobacteria, cyanophage genome, population dynamics, microarray, metagenome, protein, cyanophage, bio.tools

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NSF EF0424599;
DOE DE-FG02-02ER63445;
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Gordon and Betty Moore Foundation award letter 495.01

Availability: Public

Resource Name: ProPortal

Resource ID: SCR_006112

Alternate IDs: nlx_151586, biotools:proportal

Alternate URLs: https://bio.tools/proportal

Record Creation Time: 20220129T080234+0000

Record Last Update: 20250412T055025+0000

Ratings and Alerts

No rating or validation information has been found for ProPortal.

No alerts have been found for ProPortal.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 9 mentions in open access literature.

Listed below are recent publications. The full list is available at NIF.

Berube PM, et al. (2019) Emergence of trait variability through the lens of nitrogen assimilation in Prochlorococcus. eLife, 8.

Berube PM, et al. (2018) Single cell genomes of Prochlorococcus, Synechococcus, and sympatric microbes from diverse marine environments. Scientific data, 5, 180154.

Casey JR, et al. (2016) Adaptive Evolution of Phosphorus Metabolism in Prochlorococcus. mSystems, 1(6).

Thompson LR, et al. (2016) Gene Expression Patterns during Light and Dark Infection of Prochlorococcus by Cyanophage. PloS one, 11(10), e0165375.

Peter AP, et al. (2015) Cyanobacterial KnowledgeBase (CKB), a Compendium of Cyanobacterial Genomes and Proteomes. PloS one, 10(8), e0136262.

Biller SJ, et al. (2014) Genomes of diverse isolates of the marine cyanobacterium Prochlorococcus. Scientific data, 1, 140034.

Hernández-Prieto MA, et al. (2014) Toward a systems-level understanding of gene regulatory, protein interaction, and metabolic networks in cyanobacteria. Frontiers in genetics, 5, 191.

Thompson LR, et al. (2013) Patterns of ecological specialization among microbial populations in the Red Sea and diverse oligotrophic marine environments. Ecology and evolution, 3(6), 1780.

Waldbauer JR, et al. (2012) Transcriptome and proteome dynamics of a light-dark synchronized bacterial cell cycle. PloS one, 7(8), e43432.