

FASTA file of identified protein sequences from the R/V Falkor cruise 160115 for the ProteOMZ expedition in the Central Pacific during 2016

Website: <https://www.bco-dmo.org/dataset/737611>

Data Type: Cruise Results

Version: 2

Version Date: 2019-01-02

Project

» [The ProteOMZ Expedition: Investigating Life Without Oxygen in the Pacific Ocean](#) (ProteOMZ (Proteomics in an Oxygen Minimum Zone))

Contributors	Affiliation	Role
Saito, Mak A.	Woods Hole Oceanographic Institution (WHOI)	Principal Investigator
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Abstract

FASTA file of protein identifications from FK160115 in 2016. Individual sequences of all proteins identified in the ProteOMZ Protein dataset (737630, see "Related Datasets" section). Each entry begins with a ">" and is followed by the ProteinIdentifier.

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Coverage

Spatial Extent: N:17.4465 E:-139.1089 S:-0.4708 W:-157.3022

Temporal Extent: 2016-01-19 - 2016-01-28

Dataset Description

These data are part of the Ocean Protein Portal "ProteOMZ" dataset (<https://proteinportal.whoi.edu/>; Saito et al., 2019).

Data Processing Description

The raw mass spectra files were searched against SEQUEST within Proteome Discoverer v2.2 software. Processed files were then loaded into Proteome Software and protein and peptide reports as well as and fasta files were exported. The files were modified slightly to map to the Protein Portal data model for submission to BCO-DMO.

BCO-DMO Data Manager Notes:

* data version 1: 2018-05-25 replaced by data version 2: 2019-01-02 which is a new version of the .fasta file

which includes more proteins not present in the previous version.

BCO-DMO Processing Description

originally submitted file was attached to this dataset, no modifications.

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Related Datasets

IsRelatedTo

Saito, M. A. (2018) **Total spectral count of proteins from R/V Falkor cruise 160115 for the ProteOMZ expedition in the Central Pacific in 2016.** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 3) Version Date 2018-12-10 <http://lod.bco-dmo.org/id/dataset/737620> [[view at BCO-DMO](#)]

Relationship Description: These datasets are part of the Ocean Protein Portal "ProteOMZ" dataset (<https://proteinportal.who.edu/>; Saito et al., 2019).

Saito, M. A., Saunders, J. (2022) **Relative protein abundance from scaled and corrected exclusive peptide spectral counts from the ProteOMZ R/V Falkor expedition cruise FK160115 in the Pelagic central Pacific Ocean in 2016.** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2022-01-13 doi:10.26008/1912/bco-dmo.868030.1 [[view at BCO-DMO](#)]

Relationship Description: These datasets are part of the Ocean Protein Portal "ProteOMZ" dataset (<https://proteinportal.who.edu/>; Saito et al., 2019).

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Parameters

Parameters for this dataset have not yet been identified

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Deployments

FK160115

Website	https://www.bco-dmo.org/deployment/708387
Platform	R/V Falkor
Report	https://service.rvdata.us/data/cruise/FK160115/doc/FK160115_OfficialCruiseReport_Saito_v3.pdf
Start Date	2016-01-16
End Date	2016-02-11
Description	Project: Using Proteomics to Understand Oxygen Minimum Zones (ProteOMZ) More information is available from the ship operator at https://schmidtocean.org/cruise/investigating-life-without-oxygen-in-the... Additional cruise information is available from the Rolling Deck to Repository (R2R): https://www.rvdata.us/search/cruise/FK160115

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Project Information

The ProteOMZ Expedition: Investigating Life Without Oxygen in the Pacific Ocean (ProteOMZ

(Proteomics in an Oxygen Minimum Zone)

Website: <https://schmidtocean.org/cruise/investigating-life-without-oxygen-in-the-tropical-pacific/#team>

Coverage: Central Pacific Ocean (Hawaii to Tahiti)

From Schmidt Ocean Institute's ProteOMZ Project page:

Rising temperatures, ocean acidification, and overfishing have now gained widespread notoriety as human-caused phenomena that are changing our seas. In recent years, scientists have increasingly recognized that there is yet another ingredient in that deleterious mix: a process called deoxygenation that results in less oxygen available in our seas.

Large-scale ocean circulation naturally results in low-oxygen areas of the ocean called oxygen deficient zones (ODZs). The cycling of carbon and nutrients – the foundation of marine life, called biogeochemistry – is fundamentally different in ODZs than in oxygen-rich areas. Because researchers think deoxygenation will greatly expand the total area of ODZs over the next 100 years, studying how these areas function now is important in predicting and understanding the oceans of the future. This first expedition of 2016 led by Dr. Mak Saito from the Woods Hole Oceanographic Institution (WHOI) along with scientists from University of Maryland Center for Environmental Science, University of California Santa Cruz, and University of Washington aimed to do just that, investigate ODZs.

During the 28 day voyage named “ProteOMZ,” researchers aboard R/V *Falkor* traveled from Honolulu, Hawaii to Tahiti to describe the biogeochemical processes that occur within this particular swath of the ocean’s ODZs. By doing so, they contributed to our greater understanding of ODZs, gathered a database of baseline measurements to which future measurements can be compared, and established a new methodology that could be used in future research on these expanding ODZs.

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Funding

Funding Source	Award
Gordon and Betty Moore Foundation: Marine Microbiology Initiative (MMI)	GBMF3782
Schmidt Ocean Institute (SOI)	R/V Falkor 160115 SOI ProteOMZ Expedition

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