

# Quartet Data Portal User Guide for Proteomic Quality Assessment Report

## 1. Preparation

QDP Address	<a href="https://chinese-quartet.org/">https://chinese-quartet.org/</a>
Input files	The file format (suffix) should be .csv.

## 2. Log on to QDP

### 2.1 QDP account

1) If you have a request for the reference materials, please go to <http://chinese-quartet.org/#/materials> to request the reference materials. The Quartet team will contact you for further confirming your information and send you a registration email.

Reference Materials

Quartet multi-omics reference materials of DNA, RNA, proteins, and metabolites were simultaneously manufactured from the same batch of cultured immortalized B-lymphoblastoid cell line of a specific family member of a Chinese Quartet family from Fudan Taizhou Cohort, including father (F7), mother (M8), and two monozygotic twin daughters (D5 and D6). The Quartet Reference Materials suite is intended for quality control and performance assessment of each omics profiling. It can measure and mitigate technical variation, enabling more accurate data integration in large cohort studies. The Quartet multi-omics reference materials are publicly available and accessible. The recipients of the Reference Materials are highly encouraged to share their data with Fudan University through the Quartet Data Portal in order for us to improve the reference datasets and to better serve the community.

Name of DNA Reference Material	Color
FDU_Quartet_DNA_D5_20171028	Blue
FDU_Quartet_DNA_D6_20171028	Green
FDU_Quartet_DNA_F7_20171028	Yellow

Name of RNA Reference Material	Color
FDU_Quartet_RNA_D5_20171028	Blue
FDU_Quartet_RNA_D6_20171028	Green
FDU_Quartet_RNA_F7_20171028	Yellow

Name of Protein Reference Material	Color
FDU_Quartet_Protein_D5_20171028	Blue
FDU_Quartet_Protein_D6_20171028	Green
FDU_Quartet_Protein_F7_20171028	Yellow

Name of Metabolite Reference Material	Color
FDU_Quartet_Metabolite_D5_20171028	Blue
FDU_Quartet_Metabolite_D6_20171028	Green
FDU_Quartet_Metabolite_F7_20171028	Yellow

2) If you do not have a request for the reference materials, please send an email to [quartet@fudan.edu.cn](mailto:quartet@fudan.edu.cn) for a QDP account.

### 2.2 Log on to QDP

Address: <http://chinese-quartet.org/>

← → ↻ 不安全 | chinese-quartet.org/#/dashboard

Quartet 中华家系1号

Overview Reference Materials Multiomics Data Quality Assessment Reference Datasets

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The Quartet Data Portal only supports access from modern browsers, such as Chrome, Safari, Firefox or Edge.

We're announcing the release of our new documentation service >>> <https://docs.chinese-quartet.org> <<<

## The Quartet Project

Quality Control and Data Integration of Multi-omics Profiling

[Request Reference Materials](#) [Download MultiOmics Data](#) [Analyze Your Omics Data](#)

Multi-omics (or molecular phenomics) profiling at the genomic, transcriptomic, proteomic, and metabolomic levels is the cornerstone of high-throughput technologies for discovering biomarkers for precision medicine. However, the lack of quality control procedures of multi-omics profiling during data generation and data analysis can lead to false findings, raising serious concerns about the reliability of multi-omics studies.

The Quartet Project provides publicly accessible multi-omics reference materials and practical tools to enhance the reproducibility and reliability of multi-omics results. Well-characterized multiomics reference materials and quality control metrics pertinent to precision medicine study purposes can be used to measure and mitigate technical variation, enabling more accurate cross-batch and cross-omics data integration in increasingly large-scale and longitudinal studies such as the International Human Phenome Project.

### Data Portal Summary

Release v1.0 (October 18, 2021)

Cell Lines	Omics	Reference Materials	Reference Datasets
4	6	20	16
Platforms	Sites	Libraries	Files
26	27	1323	2646

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For the Quality Control of Omics Data

[Account Login](#)

Please enter your username.

Please enter your password.

[Register](#) [Forget Password?](#)

Login

Data Policies Help Feedback

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## 2.3 Select Quality Assessment> QC Apps

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Overview Reference Materials Multiomics Data **Quality Assessment** Reference Datasets

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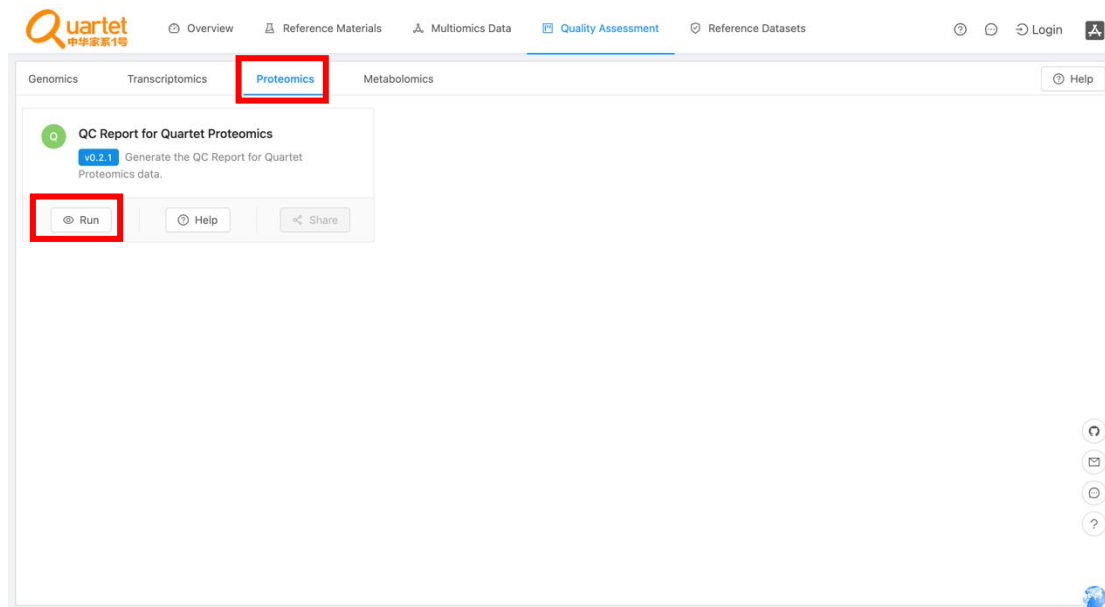
### Data Portal Summary

Release v1.0 (October 18, 2021)

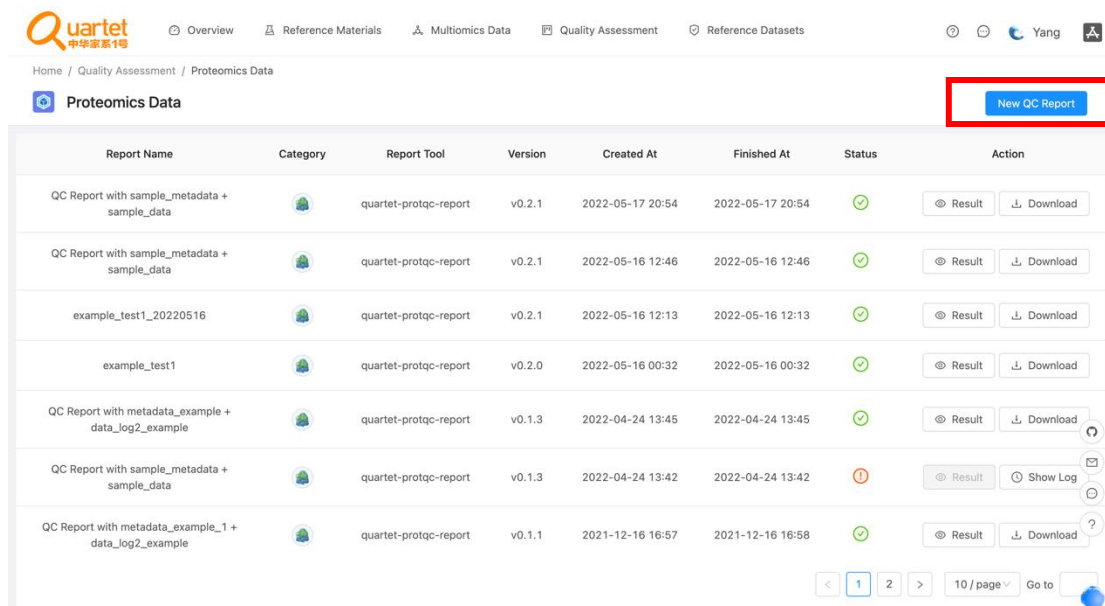
Cell Lines	Omics	Reference Materials	Reference Datasets
4	6	20	16
Platforms	Sites	Libraries	Files
26	27	1323	2646

### 3. Run QC Report

#### 3.1 Select “Proteomics” > “Run”.



#### 3.2 Click the symbol called “New QC Report”.



### 3.3 Select “Step1: Choose Report” > “QC Report for Quartet Proteomics”.

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Home / Quality Assessment / Proteomics Data

Proteomics Data

Report Name	Category
QC Report with sample_metadata + sample_data	
QC Report with sample_metadata + sample_data	
example_test1_20220516	
example_test1	
QC Report with metadata_example + data_log2_example	
QC Report with sample_metadata + sample_data	
QC Report with metadata_example_1 + data_log2_example	

New QC Report

Step1: Choose Report Step2: Upload File(s)

Notices  
Please select the expected quality assessment tool from the following list, after selecting the tool, the corresponding guidance message will appear.

Category	Name	Description	Version	Github
	QC Report for Quartet Proteomics	Generate the QC Report for Quartet Proteomics data.	v0.2.1	

### 3.4 Select “Step2: Upload File(s)” > “QC Report for Quartet Proteomics”. **Please note that the files need to be in csv format.** For details of the fixed format of the uploaded files, please refer to [https://docs.chinese-quartet.org/data\\_pipelines/proteomics/qc\\_report/](https://docs.chinese-quartet.org/data_pipelines/proteomics/qc_report/).

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Home / Quality Assessment / Proteomics Data

Proteomics Data

Report Name	Category
QC Report with sample_metadata + sample_data	
QC Report with sample_metadata + sample_data	
example_test1_20220516	
example_test1	
QC Report with metadata_example + data_log2_example	
QC Report with sample_metadata + sample_data	
QC Report with metadata_example_1 + data_log2_example	

New QC Report

Step1: Choose Report Step2: Upload File(s)

Notices  
The **data file** contains gene symbols of each protein and its quantitated expression level in each sample (replicate), and the missing values are allowed. The required file format has samples in columns and a column named "rowname".  
The **metadata file** has the information of each sample in the data file. With columns named "name", "sample" (D5, D6, F7 and M8 for Quartet samples). Remember that the column "name" and column names of the data file table must be in one-to-one correspondence.  
**Please note that the data file and metadata file need to be in csv format.**  
Example Files: [Data File](#) [Metadata File](#)

Click or drag file to this area to upload  
A maximum of 2 matched files can be uploaded at a time.

File naming conventions:  
1. A file name can contain **only ASCII characters**.  
2. A file name is **case-sensitive**.  
3. A file name must be 1 to 1023 bytes in length.  
4. **Only uppercase and lowercase letters, underscores and dashes are supported.**

3.5 After uploading the tested files, select “Step3: Parameters & Submit”. Fill in the required information and click “Submit”.

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Home / Quality Assessment / Proteomics Data

**Proteomics Data**

Report Name Category

QC Report with sample\_metadata + sample\_data

QC Report with sample\_metadata + sample\_data

example\_test1\_20220516

example\_test1

QC Report with metadata\_example + data\_log2\_example

QC Report with sample\_metadata + sample\_data

QC Report with metadata\_example\_1 + data\_log2\_example

**New QC Report**

Step1: Choose Report Step2: Upload File(s) **Step3: Parameters & Submit**

**Notices**

Quality Assessment of a Quartet proteomic profiling dataset is based on built-in biological differences of the samples and consistency with the reference dataset at relative quantitation levels. The former is scored as an Signal-to-Noise Ratio (SNR) and displayed in a PCA scatterplot, and the latter is scored as Pearson correlation to the reference dataset and displayed in a scatterplot, in which a strict filter criteria was applied (features with  $p\text{-adj} < 0.05$  in at least 4 batches were kept).

\* Report Name

\* Which Report? quartet-protqc-report

\* Data File Please select your data file

\* Metadata File Please select your metadata file

Description Please input the description!

Cancel Submit

3.6 Then you can preview or download your QC report by clicking “Result” or “Download” respectively.

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Home / Quality Assessment / Proteomics Data

**Proteomics Data** New QC Report

Report Name	Category	Report Tool	Version	Created At	Finished At	Status	Action
Quartet Protein QC Report for test20221008		quartet-protqc-report	v0.2.1	2022-10-08 10:24	2022-10-08 10:24	✓	Result Download
QC Report with sample_metadata + sample_data		quartet-protqc-report	v0.2.1	2022-05-17 20:54	2022-05-17 20:54	✓	Result Download
QC Report with sample_metadata + sample_data		quartet-protqc-report	v0.2.1	2022-05-16 12:46	2022-05-16 12:46	✓	Result Download
example_test1_20220516		quartet-protqc-report	v0.2.1	2022-05-16 12:13	2022-05-16 12:13	✓	Result Download
example_test1		quartet-protqc-report	v0.2.0	2022-05-16 00:32	2022-05-16 00:32	✓	Result Download
QC Report with metadata_example + data_log2_example		quartet-protqc-report	v0.1.3	2022-04-24 13:45	2022-04-24 13:45	✓	Result Download
QC Report with sample_metadata + sample_data		quartet-protqc-report	v0.1.3	2022-04-24 13:42	2022-04-24 13:42	⚠	Result Show Log

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