

Quartet Data Portal User Guide for

WGS Quality Assessment Report

1. Basic Information

Purpose	Self-generated DNA quality assessment report of "Chinese Quartet" No.1 using QDP
QDP Address	http://chinese-quartet.org/
OSS Download Address	OSS: https://help.aliyun.com/document_detail/209974.htm?spm=a2c4g.11186623.0.0.614d7a47wCxReB#task-2065478
Input files	The file name suffix should be: _LCL5_R1.fastq.gz、_LCL6_R1.fastq.gz、_LCL7_R1.fastq.gz、_LCL8_R1.fastq.gz _LCL5_R2.fastq.gz、_LCL6_R2.fastq.gz、_LCL7_R2.fastq.gz、_LCL8_R2.fastq.gz
Output files	Quality assessment report html format

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, protein, 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, to 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 for a QDP account.

2.2 Log on to QDP

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

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

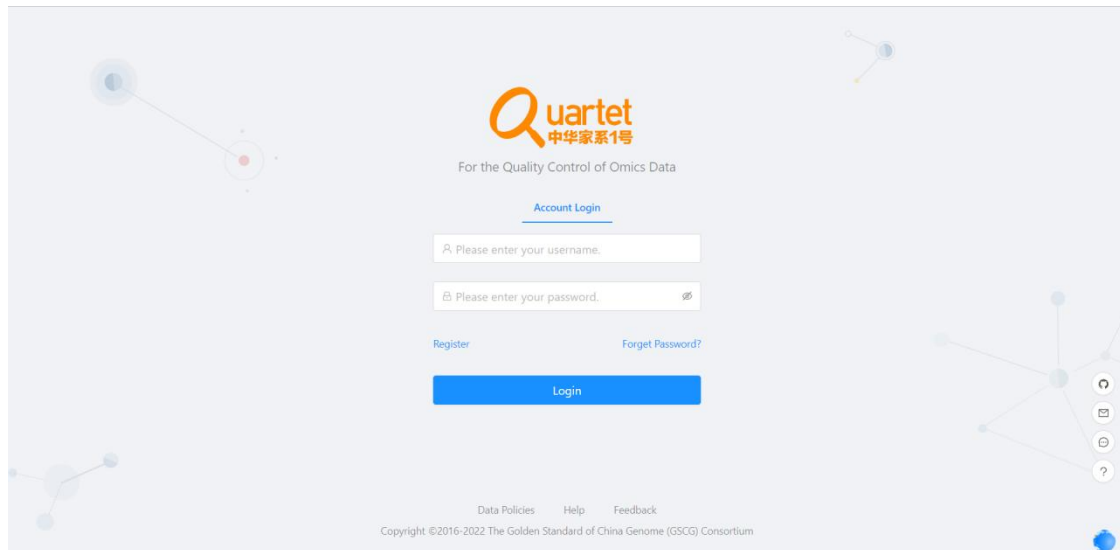
Quality Control and Data Integration of Multi-omics Profiling

[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



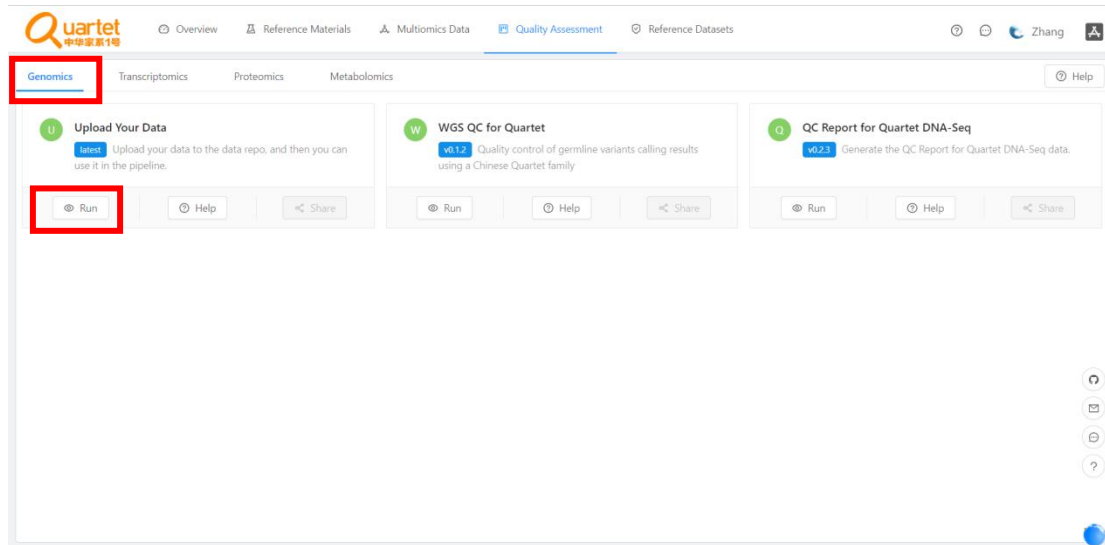
2.3 Select Quality Assessment> QC Apps

The screenshot shows the Quartet Data Portal interface. The top navigation bar includes links for "Overview", "Reference Materials", "Multiomics Data", "Quality Assessment", and "Reference Datasets". The "Quality Assessment" link is highlighted with a red box. Below it, a dropdown menu shows "QC Apps" (highlighted with a red box), "QC Report History", and "All Your Data". The main content area is titled "The Quartet Project" and "Quality Control and Data Integration of Multi-omics Profiling". It includes buttons for "Request Reference Materials", "Download MultiOmics Data", and "Analyze Your Omics Data". A paragraph describes the project's goals. Below this is a "Data Portal Summary" table.

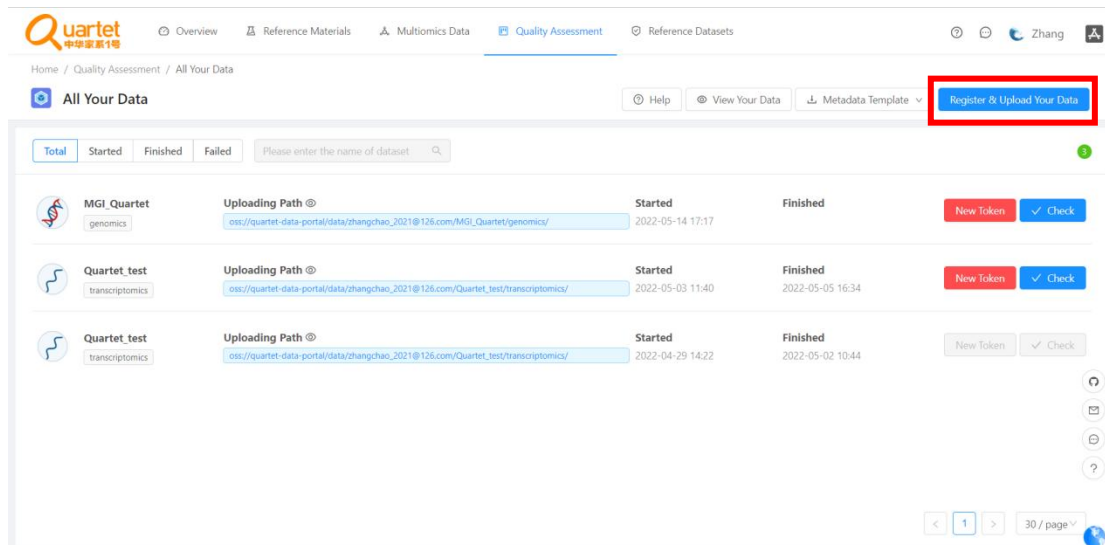
Data Portal Summary			
Release v1.0 (October 18, 2021)			
Cell Lines	Omics	Reference Materials	Reference Datasets
4	6	20	16
Platforms	Sites	Libraries	Files
26	27	1323	2646

3. Upload DNA sequencing data

3.1 Select Genomic> Upload Your Data> Run



3.2 Click the symbol called “Register & Upload Your Data”



3.3 Fill in Dataset Name, DataType select Genomics, and click Submit

Register & Upload Your Omics Data

Notices
The uploading path will automatically generate after you submit the form. If you want to access the same path as before, please enter the same information.

Your Data Will Be Uploaded To
oss://quartet-data-portal/data/zhangchao_2021@126.com/MGI_Quartet_test/genomics/

Dataset Name
MGI_Quartet_test

Contact Email
zhangchao_2021@126.com

Manager
zhangchao_2021@126.com

DataType
Genomics

Description
Please enter the description

Submit

3.4 Click the symbol called “New Token”. Copy the authorizedCode, which is for subsequent ossbrowser login

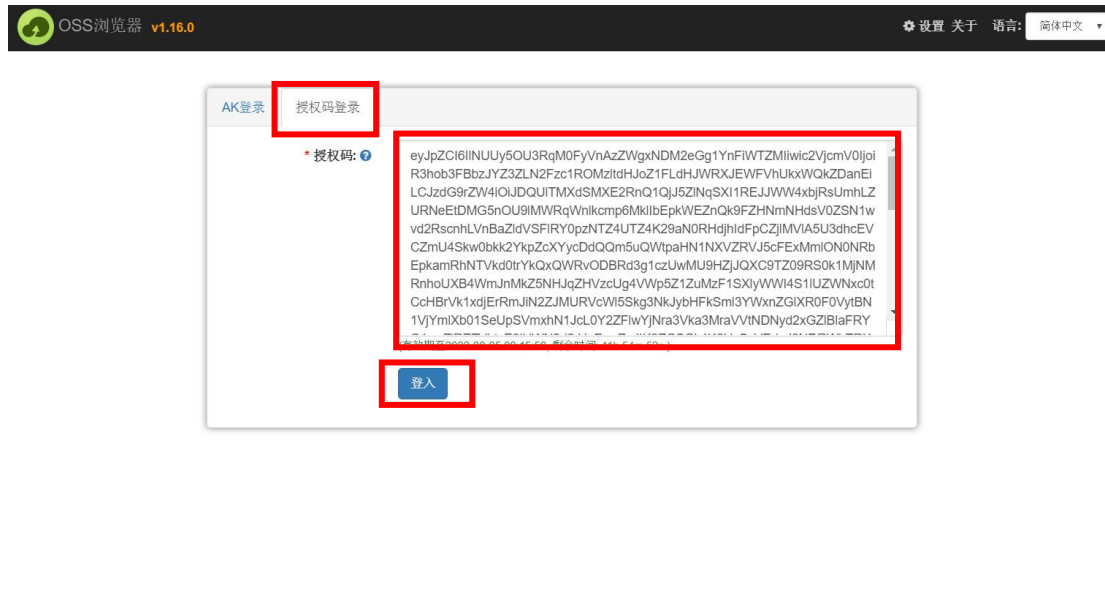
New Token Information (Only Show Once)

Download

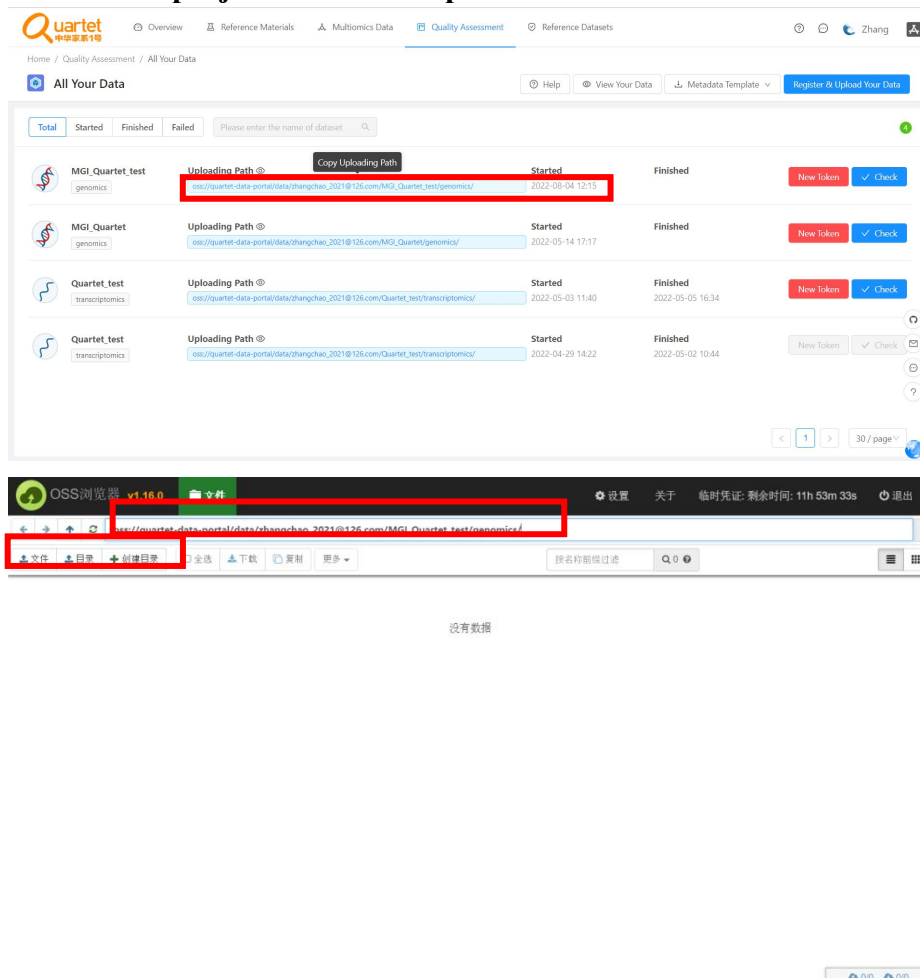
authorizedCode: jvzs4zS401H0kZpTEJ+kESpYE8+hX1MhAcYtZ3twZQK6QAT8+8rD3jZzn+Hvnc7Vb2wOhmTrBDZqVe64pFfN2H1B1o3Hs+Ccow9tGECrIUmsXp1Jh+/KAq...

New Token ✓ Check

3.4 Login on to ossbrowser by using an authorization code, which is copied in Step 3.3

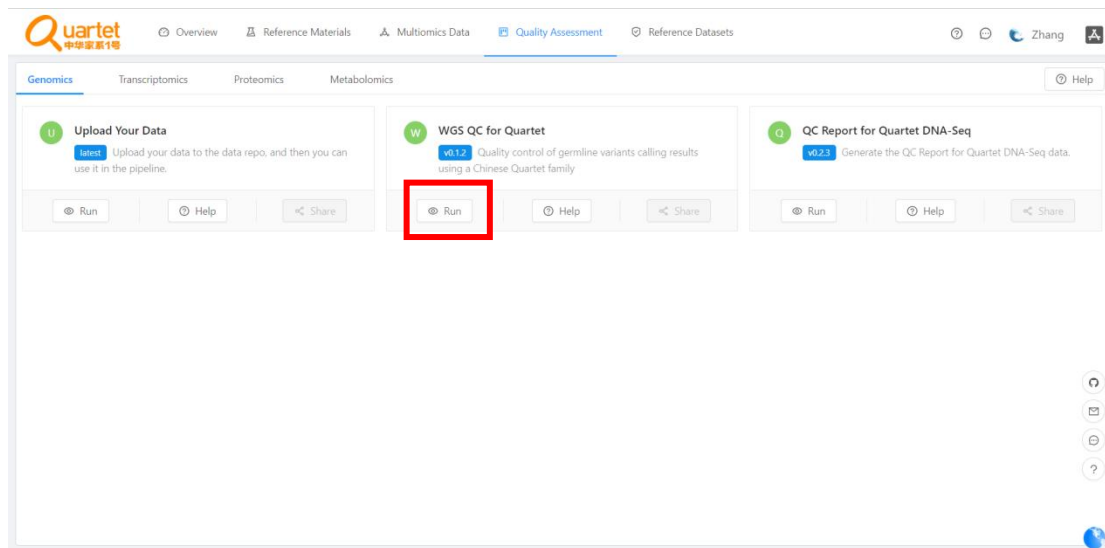


3.5 Create project folder and upload the data

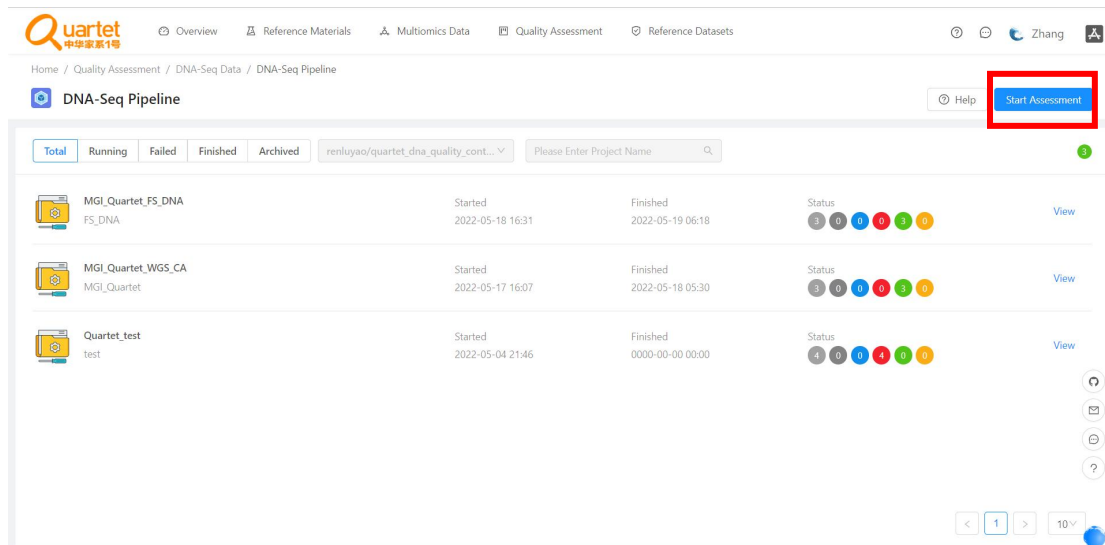


4. Run WGS app

4.1 Select Genomic> WGS QC for Quartet> Run



4.2 Click the symbol called “Start Assessment”



4.3 Fill in Assessment Name and Description. Then click Next.

The screenshot shows the 'General Information' step of the Quartet assessment process. The 'Assessment Name' and 'Description' fields are highlighted with a red box and contain the text 'MGI_Quartet_test'. The 'Next' button is also highlighted with a red box. The interface includes a progress bar at the top with steps 1 (General Information), 2 (Assessment Parameters), and 3 (Submit). The 'Assessment App' dropdown is set to 'renliyao/quartet_dna_quality_control_wgs_big_...'. The 'Group' is 'Quartet Team' and the 'Started Time' is '2022-08-04 12:33:52'.

4.4 Fill in Sample information

Sample ID should be numbers. It is set D5+D6+F7+M8 Four samples as a group, Sample ID for one group of samples filled in 1, Sample ID for two groups of samples filled in 2, Sample ID for three groups of samples filled in 3. Assessment Parameters can be downloaded and checked.

The screenshot shows the 'Sample ID' step of the Quartet assessment process. The 'Sample ID' field is highlighted with a red box and contains the number '1'. The 'FASTQ/VCF File?' section is also highlighted with a red box, showing 'FASTQ' selected. The 'D5 Read1 Files', 'D5 Read2 Files', 'D6 Read1 Files', 'D6 Read2 Files', and 'F7 Read1 Files' sections are also highlighted with a red box, showing file names like 'LCL5_CA_DNA_D5_4_R1.fastq.gz'.

4.5 Click the symbol called “Run Assessment”

The screenshot shows the Quartet web interface. The top navigation bar includes the Quartet logo, a user profile icon, and links to Overview, Reference Materials, Multiomics Data, Quality Assessment, and Reference Datasets. The main content area has a progress bar with three steps: General Information, Assessment Parameters, and Submit. The 'Submit' step is active. Below the progress bar, there is a form with fields for CreatedTime, Group, AppId, ProjectName, Description, AppName, and Author. To the right of the form, there are buttons for Previous Step, Show Jobs, and a red box highlighting the Run Assessment button. Below the form, there is a table for Assessment Parameters with columns for Download, Save, and Reset. The table contains one row with a fastq file path.

Download	Save	Reset
fastq_or_vcf	fastq_1_D5	fastq_2_D5

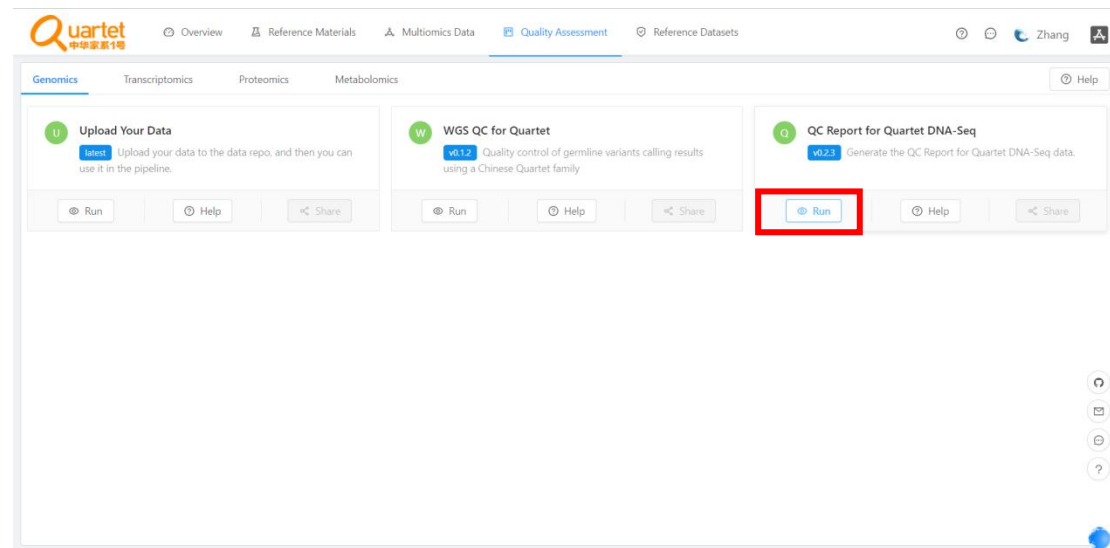
4.6 Check the status of Run Assessment

The screenshot shows the Quartet web interface. The top navigation bar includes the Quartet logo, a user profile icon, and links to Overview, Reference Materials, Multiomics Data, Quality Assessment, and Reference Datasets. The main content area has a breadcrumb trail: Home / Quality Assessment / DNA-Seq Data / DNA-Seq Pipeline. Below the breadcrumb trail, there is a section for DNA-Seq Pipeline with a Help button and a Start Assessment button. The main content area contains a table with columns for Total, Running, Failed, Finished, and Archived. The table lists three projects: MGI_Quartet_FS_DNA, MGI_Quartet_WGS_CA, and Quartet_test. Each project has a status bar with colored circles representing different stages of the assessment process. The status bar for MGI_Quartet_FS_DNA is highlighted in a red box.

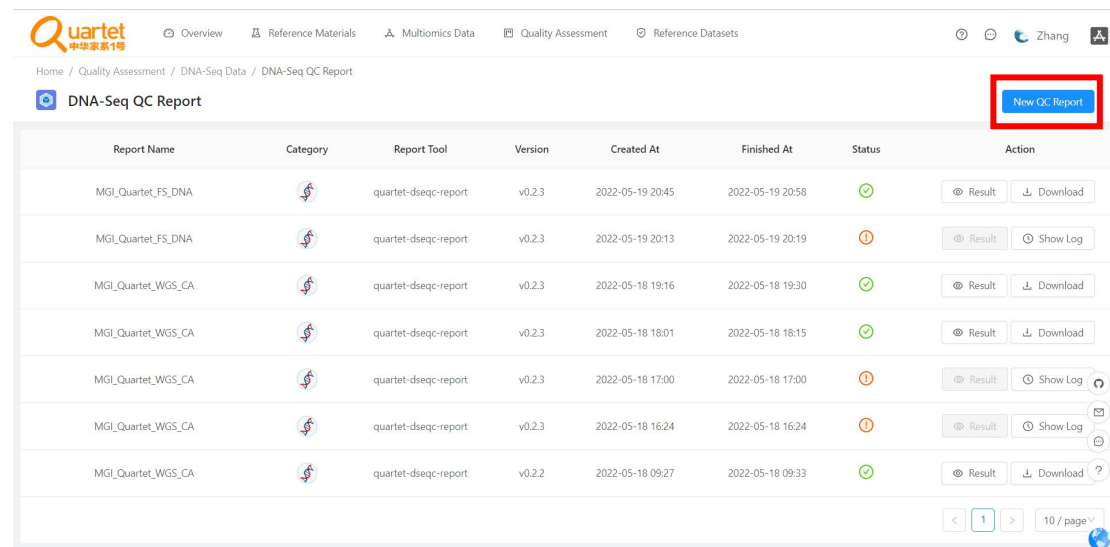
Total	Running	Failed	Finished	Archived
renluyao/quartet_dna_quality_cont...				
Please Enter Project Name				
MGI_Quartet_FS_DNA	Started	Finished	Status: 3 0 0 0 3 0	
MGI_Quartet_WGS_CA	Started	Finished	Status: 3 0 0 0 3 0	
Quartet_test	Started	Finished	Status: 4 0 0 0 0 0	

5. Results collation and report generation

5.1 Select Genomic> QC Report for Quartet DNA Seq-Run



5.2 Click the symbol called “New QC Report”



5.3 Follow the Steps as prompted

Quartet 中华家第1号

Overview Reference Materials

Home / Quality Assessment / DNA-Seq Data / DNA-Seq QC Report

DNA-Seq QC Report

Report Name	Category
MGI_Quartet_FS_DNA	
MGI_Quartet_FS_DNA	
MGI_Quartet_WGS_CA	
MGI_Quartet_WGS_CA	
MGI_Quartet_WGS_CA	
MGI_Quartet_WGS_CA	
MGI_Quartet_WGS_CA	

New QC Report

Step1: Choose Report Step2: Load Project & Submit

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 DNA-Seq	Generate the QC Report for Quartet DNA-Seq data.	v0.2.3	

Quartet 中华家第1号

Overview Reference Materials

Home / Quality Assessment / DNA-Seq Data / DNA-Seq QC Report

DNA-Seq QC Report

New QC Report

Step1: Choose Report Step2: Load Project & Submit

Notices
Please select the completed project from the dropdown menu below and the QC report tool will automatically extract the required data from the results file generated by the 'WGS QC for Quartet' app and generate a QC report. If you do not find the expected project, please check whether the corresponding analysis has been completed properly.

MGI_Quartet_FS_DNA

MGI_Quartet_FS_DNA

MGI_Quartet_WGS_CA

```

{
  "description": "FS_DNA",
  "appName": "renluyao/quartet_dna_quality_control_wgs_big_pipeline-v0.1.2",
  "appId": "ea989ff08517f6c4dcdedf931ac946f",
  "author": "zhangchao_2021@126.com",
  "groupname": "Quartet Team",
  "startedAt": "2022-05-18 16:31",
  "finishedAt": "2022-05-19 06:18",
  "samples": [
    {
      "fastq_2_F7": "oss://quartet-data-portal/data/zhangchao_2021@126.com/MGI_Quartet/genomics/LCL7_FS_DNA_F7_1_R2.fastq.gz",
      "fastq_1_F7": "oss://quartet-data-portal/data/zhangchao_2021@126.com/MGI_Quartet/genomics/LCL7_FS_DNA_F7_1_R1.fastq.gz",
      "fastq_2_D6": "oss://quartet-data-portal/data/zhangchao_2021@126.com/MGI_Quartet/genomics/LCL6_FS_DNA_D6_1_R2.fastq.gz",
      "fastq_1_D6": "oss://quartet-data-portal/data/zhangchao_2021@126.com/MGI_Quartet/genomics/LCL6_FS_DNA_D6_1_R1.fastq.gz",
      "fastq_2_H8": "oss://quartet-data-portal/data/zhangchao_2021@126.com/MGI_Quartet/genomics/LCL8_FS_DNA_H8_1_R2.fastq.gz",
      "fastq_1_H8": "oss://quartet-data-portal/data/zhangchao_2021@126.com/MGI_Quartet/genomics/LCL8_FS_DNA_H8_1_R1.fastq.gz",
      "facta_dir": "facta"
    }
  ]
}

```

Cancel Submit

Quartet 中华家第1号

Overview Reference Materials Multiomics Data Quality Assessment Reference Datasets

Home / Quality Assessment / DNA-Seq Data / DNA-Seq QC Report

DNA-Seq QC Report

New QC Report

Report Name	Category	Report Tool	Version	Created At	Finished At	Status	Action
MGI_Quartet_FS_DNA		quartet-dseq-report	v0.2.3	2022-05-19 20:45	2022-05-19 20:58	✓	Result Download
MGI_Quartet_FS_DNA		quartet-dseq-report	v0.2.3	2022-05-19 20:13	2022-05-19 20:19	⚠	Result Show Log
MGI_Quartet_WGS_CA		quartet-dseq-report	v0.2.3	2022-05-18 19:16	2022-05-18 19:30	✓	Result Download
MGI_Quartet_WGS_CA		quartet-dseq-report	v0.2.3	2022-05-18 18:01	2022-05-18 18:15	✓	Result Download
MGI_Quartet_WGS_CA		quartet-dseq-report	v0.2.3	2022-05-18 17:00	2022-05-18 17:00	⚠	Result Show Log
MGI_Quartet_WGS_CA		quartet-dseq-report	v0.2.3	2022-05-18 16:24	2022-05-18 16:24	⚠	Result Show Log
MGI_Quartet_WGS_CA		quartet-dseq-report	v0.2.2	2022-05-18 09:27	2022-05-18 09:33	✓	Result Download

< 1 > 10 / page