



GenomeTrakr WGS Protocol Collection and Workflow for MiSeq V.2

COMMENTS 0

DOI

dx.doi.org/10.17504/protocols.io.3byl4bwyjvo5/v2

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WORKS FOR ME 1

DEC 16, 2022



ABSTRACT

Here we have created a collection of all the protocols used for WGS using the MiSeq, in order, from sample extraction to NCBI submission.

This collection has three sections:

- Section 1: WGS Wet lab workflow for Illumina MiSeq
- Section 2: Dry lab workflow for sequence QC and NCBI submission Direct Submission
- Section 3: Dry lab workflow for sequence QC and NCBI submission PulseNet labs

Associated protocols:

- Querying the NCBI database for GenomeTrakr data (protocols.io)
- NCBI data curation protocol SOP for editing GenomeTrakr submissions (protocols.io)

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PROTOCOL CITATION

Tina.Pfefer, Julie Haendiges, Maria Balkey, Ruth Timme 2022. GenomeTrakr WGS Protocol Collection and Workflow for MiSeq. **protocols.io** https://dx.doi.org/10.17504/protocols.io.3byl4bwyjvo5/v2 Version created by Tina.Pfefer

KEYWORDS

GenomeTrakr, whole genome sequencing, enteric pathogens, surveillance, MiSeg

motocols.io

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CREATED

Dec 13, 2022

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Dec 16, 2022

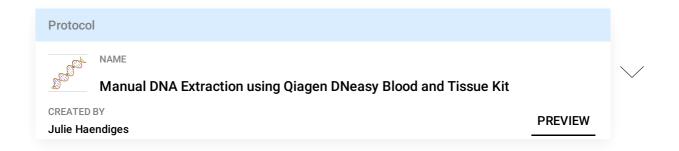
PROTOCOL INTEGER ID

73932

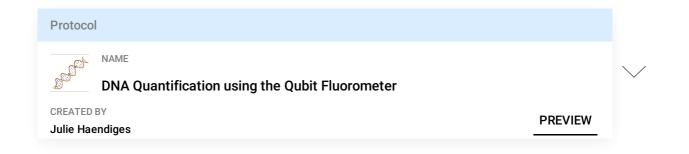
Wet lab

1 WGS Wet lab workflow for Illumina MiSeq

2 **DNA Extraction**



3 DNA Quantification



4 Library Preparation



2





NAME

Illumina DNA Prep (M) Tagmentation Library Preparation for use on an Illumina MiSeq Sequencer

CREATED BY

Julie Haendiges

PREVIEW

5 Sequencing

Protocol



NAME

Procedure for Operation and Maintenance of the Illumina MiSeq for Whole Genome Sequencing

CREATED BY

Julie Haendiges

PREVIEW

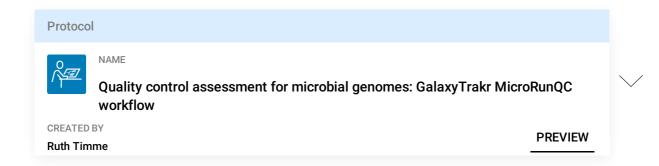
Dry lab - Direct Submission

6 Dry lab workflow for sequence QC and NCBI submission - Direct Submission:

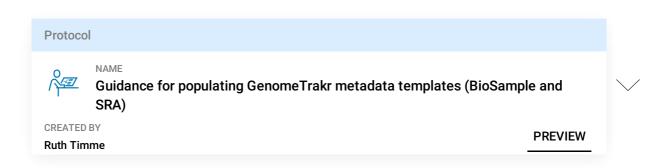
The following protocols are also included in a Springer Methods book chapter collection: <u>Utilizing the Public GenomeTrakr Database for Foodborne Pathogen Traceback (protocols.io)</u>

7 Check sequence quality:

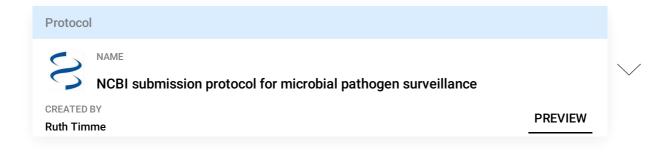




8 Populate BioSample AND SRA metadata templates:



9 Submit sequence and metadata to NCBI:



10 Update, retract, or replace these records in NCBI databases, if necessary:





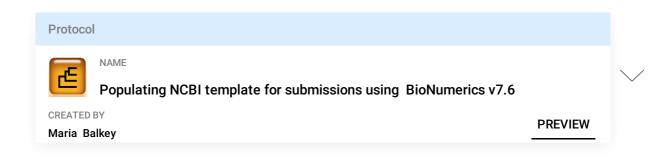
Dry lab - PulseNet submission

- 11 Dry lab workflow for sequence QC and NCBI submission PulseNet labs:
- 12 Check sequence quality:

Follow the CDC's guidance for assessing QC in BioNumerics

13 Populate NCBI template:

***NOTE: For NCBI submission for fields not included in the BioNumerics Template, please remember to include the name of the laboratory sequencing the isolates and the surveillance effort name in the **sequenced_by** and **project_name** fields as described in Step 5 of this protocol.



14 Submit sequence and metadata to NCBI:

Follow the CDC's guidance for NCBI submissions through BioNumerics.

15 Update, retract, or replace these records in NCBI databases, if necessary:



Protocol



NAME

NCBI data curation protocol - SOP for editing GenomeTrakr submissions

CREATED BY

Ruth Timme PREVIEW

