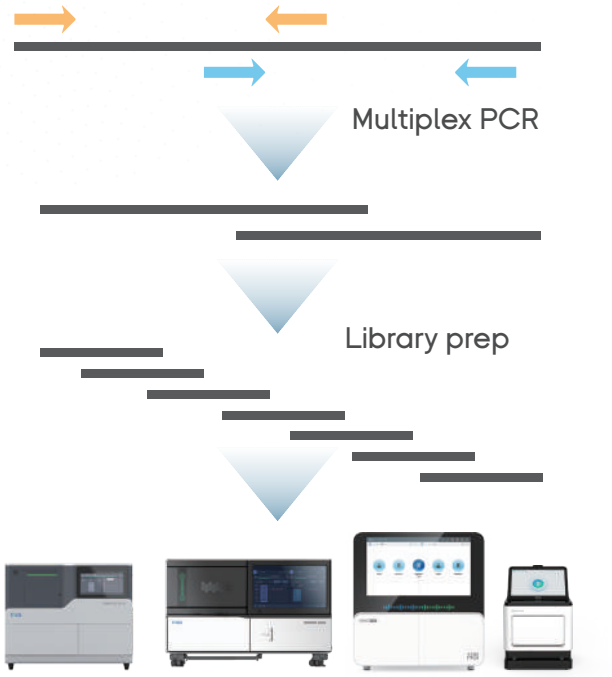
ATOPlex MPXV Panel

Highlights

- **Short TAT**
  Less than 9 hours from virus DNA to library
- **High coverage**
  Cover up to 99% monkeypox genome
- **Accurately quantify**
  Reagent contain the spike-in control for virus quantification

Technical principle



Parameters	Specification
Intended use	Monkey pox identification and whole genome sequencing
Covered region	MPXV full length genome (NC_063383.1)
Amplicons Size	313-395 bp
Amplicon number	739 amplicons
Sample type	gDNA from blister fluid，oropharyngeal swabs, nasal swabs
TAT from DNA to library	Less than 9 hours
Sequencing platform	DNBSEQ-G400RS/DNBSEQ-G50RS/DNBSEQ-G99ARS/DNBSEQ-E25RS
Sequencing length	SE100+10+10 (faster speed) or PE150+10+10 (more samples)
Recommended reads	SE100: 5 M reads/ sample (qPCR ct value≤28); 20 M reads/ sample (qPCR ct value≤32) PE150: 1.5 M reads/ sample (qPCR ct value≤28); 6 M reads/ sample(qPCR ct value≤32)

MGI MPXV Assembly and Phylogenetic Software Analysis Package

MGI's self-developed high-throughput sequencing analysis solution for monkeypox virus is an ideal tool for the identification, mutation detection, and strain typing of monkeypox virus. It supports the entire process from raw data quality control to the output of analysis reports, suitable for metagenomic sequencing samples with monkeypox virus and sequencing samples based on the ATOPlex multiplex PCR kit.

FASTQ data quality control > Sequence alignment > Mutation detection > Typing > Report generation > Traceability analysis (can select localise software)

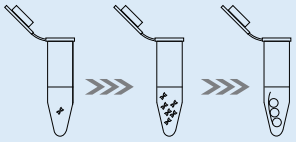
Integrating with MGI's reagents and equipment, our solution offers end-to-end processing from sample to report, delivering comprehensive support for monkeypox virus surveillance and source tracking. Choose the SE100 solution for faster sequencing, or the PE150 solution for higher throughput.

1 hour

Nucleic acid extraction

- MGIEasy Microbiome DNA Extraction Kit MD01T-96
- MGISP-960RS

9 hours



Multiplex PCR | PCR-free Lib prep | DNB

- ATOPlex MPXV Library Preparation Set
- MGISP-100RS
- MGISP-960RS

5-20 hours

Sequencing

- DNBSEQ-G99RS/ARS
  SE100, ~5 h (faster speed)
  PE150, ~12h (more samples)
- DNBSEQ-E25RS
  SE100, ~5 h (faster speed)
  PE150, ~20h (more samples)

1-3 hours

Data processing

- MGI MPXV Assembly and Phylogenetic Software
  SE100/5M: ~1h/16 Samples
  SE100/20M: ~2.5h/16 Samples
  PE150/1.5M: ~50min/16 Samples
  PE150/6M: ~3h/16 Samples
- Platform of microorganisms Fast Identification

Order info

Category	Name	PN
Genetic Sequencer	DNBSEQ-E25RS Genetic Sequencer	900-000537-00
	DNBSEQ-G99RS Genetic Sequencer	900-000607-00
	DNBSEQ-G99ARS Genetic Sequencer	900-000609-00
Automated instrument	MGISP-100RS Automated Sample Prep System	900-000206-00
	High-throughput Automated Sample Preparation System MGISP-960RS Config2	900-000147-00
	High-throughput Automated Sample Preparation System MGISP-960RS Config7	900-000152-00
Nucleic acid extraction reagent	MGIEasy Microbiome DNA Extraction Kit MD01T-96 (96RXN)	1000027955
Library prepare reagent	ATOPlex MPXV Panel (16RXN)	940-000565-00
	ATOPlex MPXV Panel (96RXN)	940-000561-00
	ATOPlex RNA multiplex PCR amplification module (16RXN)	940-000128-00
	ATOPlex DNA multiplex PCR amplification module (96RXN)	940-000124-00
	MGIEasy Fast PCR-FREE FS DNA Library Prep Set (16RXN)	940-000019-00
	MGIEasy Fast PCR-FREE FS DNA Library Prep Set (96RXN)	940-000021-00
	ATOPlex MPXV Library Preparation Set (16 rxn)	940-002483-00
	ATOPlex MPXV Library Preparation Set (96 rxn)	940-002482-00
Sequencing reagent	DNBSEQ One Step DNB Make Reagent Kit (4RXN)	1000026466
	DNBSEQ-G99RS High-throughput Sequencing Set (G99 FCL SE100/PE50)	940-001268-00
	DNBSEQ-E25RS High-throughput Sequencing Set (FCL SE100)	940-000573-00
	DNBSEQ-G99RS High-throughput Sequencing Set (G99 FCL PE150)	940-001269-00
	DNBSEQ-E25RS High-throughput Sequencing Set (FCL PE150)	940-000567-00
Bioinformatic analysis	MGI MPXV Assembly and Phylogenetic Software Analysis Package (16 reports)	970-000311-00
	MGI MPXV Assembly and Phylogenetic Software	970-000525-00
	Platform of microorganisms Fast Identification	900-000393-00

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