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Molecular Inversion Probes _User Friendly SOP_12-10-2025 V.1

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Protocol status: Working
This protocol is currently in use at the Washington Animal Disease Diagnostic Laboratory

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Keywords: Molecular Inversion Probes, User Friendly SOP, H5N1, viral RNA, WGS, genome of highly pathogenic avian influenza h5n1 clade, highly pathogenic avian influenza h5n1 clade, tm viral rna target capture kit, samples with high viral load, samples with lower viral load, rna virus, high viral load, sequencing library, lower viral load, genome, libraries for whole genome, whole genome, complete hpai, hpai

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Disclaimer

Abstract

TM Viral RNA Target Capture Kit is used to prepare next-generation sequencing libraries for whole genome or targeted sequencing of RNA viruses. This protocol contains instructions for library preparation for sequencing on Illumina platforms. Users should refer to product labeling for the probe design code as well as the probe fill size and the design version number. The authors have tested this protocol using a probe panel designed to cover the genome of Highly Pathogenic Avian Influenza H5N1 clade 2.3.4.4b genotype B3.13. The authors have had good success recovering the complete, or nearly complete, HPAI genomes from samples with high viral loads (e.g., when Ct values are ≤30). Samples with lower viral loads are unlikely to yield the complete HPAI genome using this protocol.

Attachments

PDF

Molecular Inversion ...

272KB

Troubleshooting

1 This protocol is recommended for higher amounts of input RNA Ct ≤29. It was found to produce superior results. However, the results may not be as expected if the RNA input is too low and/or the Ct values are high (≥30). For whole genome RNA (host and pathogen) sequencing, best results will be achieved if reactions contain at least 10,000 copies of RNA.
* The probe panel of the kit was designed to cover the genome of Highly Pathogenic Avian Influenza H5N1 clade 2.3.4.4b, genotype B3.13
For all kit reagents and part numbers, see the attached ordering sheet in page (7).
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