**NextSeq Employee Training Form**

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| **Employee Name** | **Training Start Date** |
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**Section I – Base Knowledge (Video and Reading Requirements)** *[select videos and documents relevant to your lab processes; add other videos and documents as appropriate]*

|  |  |  |
| --- | --- | --- |
| **Video Title** | **Trainee Initials** | **Date Watched** |
| [**NextSeq: System Overview**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/training.html) |  |  |
| [**Sequencing: Introduction to Sequencing by Synthesis**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/training.html) |  |  |
| [**AmpliSeq for Illumina: Library Prep Protocol**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/training.html) |  |  |
| [**AmpliSeq for Illumina: Overview**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/training.html) |  |  |
| [**Nextera DNA Flex Library Preparation**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/training.html) |  |  |
| [**NextSeq: How to Start a Run**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/training.html) |  |  |
| [**NextSeq: Does My Run Look Good?**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/training.html) |  |  |
| **Document Name** | **Trainee Initials** | **Date Read** |
| [**NextSeq System Guide**](https://support.illumina.com/content/dam/illumina-support/documents/documentation/system_documentation/nextseq/nextseq-500-system-guide-15046563-06.pdf) |  |  |
| [**NextSeq System Denature and Dilute Libraries Guide**](https://support.illumina.com/content/dam/illumina-support/documents/documentation/system_documentation/nextseq/nextseq-denature-dilute-libraries-guide-15048776-11.pdf) |  |  |
| [**NextSeq System Custom Primers Guide**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/documentation.html) |  |  |
| [**NextSeq System Site Prep Guide**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/documentation.html) |  |  |
| [**NextSeq System Safety and Compliance Guides**](https://support.illumina.com/sequencing/sequencing_instruments/nextseq-500/documentation.html) |  |  |

**Section II – Observation: Trainee observes the trainer perform all steps in the sequencing SOP**

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| --- | --- | --- |
| **Discussion Points** | **Trainer Initials** | **Date** |
| When is a manual post-run wash necessary? |  |  |
| Briefly explain how clusters are imaged using 2-channel sequencing chemistry. |  |  |
| Why is fragment size important for producing high quality libraries? Briefly explain the configuration of the NextSow cell. |  |  |
| Why is it essential to prepare freshly diluted NaOH for denaturing libraries for cluster generation? |  |  |
| Briefly explain the configuration of the NextSeq flow cell. |  |  |
| *Add additional questions the trainer should ask the trainee to determine level of understanding specific to your protocol.* |  |  |

**Section III – Performance under Supervision: Trainee performs all steps in the sequencing SOP under direct trainer supervision**

Previously run, well characterized sample(s) will be provided to the trainee. The trainee will:

*(Please find example steps below, please insert steps specific to your lab)*

1. *Extract the DNA*
2. *Perform Quality Control on the extracted DNA*
3. *Shear the DNA (as applicable) and perform the Library Preparation*
4. *Perform Quality Control on the sheared DNA and the Library Preparation*
5. *Load the prepared library onto the NextSeq*

Successful performance criteria: All samples result in good quality sequence data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Performance Assessment** | **Yes** | **No** | **Trainer Initials** | **Date** |
| *Extracted DNA met quality requirements* | 🞏 | 🞏 |  |  |
| *Sheared DNA (as applicable) met quality requirements* | 🞏 | 🞏 |
| *Library Preparation met quality requirements* | 🞏 | 🞏 |
| *Sequence data metrics met quality requirements* | 🞏 | 🞏 |
| **Comments:** |

**Section IV – Independent Performance: Trainee individually executes all steps in the sequencing SOP**

Sample(s) will be provided to the trainee. The trainee will:

1. *Extract the DNA*
2. *Perform Quality Control on the extracted DNA*
3. *Shear the DNA (as applicable) and perform the Library Preparation*
4. *Perform Quality Control on the sheared DNA and the Library Preparation*
5. *Load the prepared library onto the NextSeq*

Successful performance criteria: All samples result in good quality sequence data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Performance Assessment** | **Yes** | **No** | **Trainer Initials** | **Date** |
| *Extracted DNA met quality requirements* | 🞏 | 🞏 |  |  |
| *Sheared DNA (as applicable) met quality requirements* | 🞏 | 🞏 |
| *Library Preparation met quality requirements* | 🞏 | 🞏 |
| *Sequence data metrics met quality requirements* | 🞏 | 🞏 |
| **Comments:** |

**Section VI – Employee Attestation**

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| --- | --- | --- | --- |
| **Attestations** | **Yes** | **No** | **Trainee Initials** |
| I read and understand the procedures listed in the required reading. | **🞏** | **🞏** |  |
| I had an opportunity to discuss my questions with the trainer. | **🞏** | **🞏** |  |
| I am satisfied with the explanations provided to me; all my questions were answered. | **🞏** | **🞏** |  |
| I understand the risks and mitigation practices that eliminate/minimize these risks. | **🞏** | **🞏** |  |
| I agree to comply with risk mitigation controls to eliminate/minimize these risks. | **🞏** | **🞏** |  |

**Section VII – Review and Signatures**

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| --- | --- | --- |
| **Trainee Name** | **Signature** | **Date** |
|  |  |  |
| **Trainer Name** | **Signature** | **Date** |
|  |  |  |
| **Quality Assurance** | **Signature** | **Date** |
|  |  |  |