Local Run Manager

Customer Release Notes

RNA Fusion Analysis Module v3.0

For NextSeq 550 RUO, MiSeq RUO, iSeq and MiniSeq Instruments

February 13, 2024

Introduction

These Release Notes detail notable items for the Local Run Manager RNA Fusion Analysis Module v3.0 release.

Please note that the RNA Fusion Analysis Module v3.0.0 requires Local Run Manager Framework v4.0 or higher and is not compatible with Local Run Manager Framework v3.0 or lower.

The Local Run Manager software is an integrated solution for recording samples for a run, specifying run parameters, monitoring run status, performing data analysis, The Local Run Manager RNA Fusion analysis module aligns reads against a specified reference using the STAR aligner, and then detects gene fusions using Manta. This workflow is designed specifically for RNA libraries prepared with the TruSight RNA library preparation kit. For more information on module version compatibility per instrument platform, refer to https://customprotocolselector.illumina.com/selectors/LRM-module-selector/Content/Source/FrontPages/LRM-module-selector.htm.

For more information about this analysis module and how to use it, refer to the Local Run Manager RNA Fusion Analysis Module Workflow Guide, available from the Illumina Local Run Manager Support Page, Documentation & Literature.
https://support.illumina.com/sequencing/sequencing_software/local-run-manager/documentation.html

NEW FEATURES:

- Illumina Library Prep Kits (LPK) and Index Adapter Kits (IAK) are decoupled.
  - Users now able to choose both the LPK and IAK options from Local Run Manager interface.
  - Sample Sheet export from Local Run Manager will now include the Index Kits field on a separate line from the Library Prep Kits.
  - Added support for custom Library Prep Kits and Index Kits.
  - Added separate directories for Illumina Library Prep Kits and Index Kits.
- Added Custom Primers use warning when applicable on the interface.
- Removed Show Index Name/Sequence option when the Library Prep Kit is set to Custom.
- Compatibility check with Local Run Manager Framework v4.0 only.

FIXED ISSUES:

- Fixed the issue where if multiple module versions installed, downgrading .EXE installer does not revert to the last active version.
- Fixed the issue where system is not checking if the HumanRNAFusion genome is present before allowing the user to save the run.

KNOWN ISSUES:

- The sample reports are being reordered in the Samples and Results tab.
- Custom Primers don't update in the Local Run Manager run if they are updated in the Control Software.

- If the Local Run Manager Analysis Service is restarted, this could cause a running analysis to crash. Analysis can be requeued if this happens.
- Alignment fails when STAR uses >20 CPU cores.

OTHER:

- When using a custom kit, you must always enter your i5 indexes in forward orientation.
- Local Run Manager will automatically reverse complement the i5 indexes when writing the sample sheet used for analysis in the NextSeq 550, iSeq and MiniSeq. Local Run Manager will not reverse complement i5 indexes in MiSeq.

PREVIOUS RELEASE NOTES

RNA FUSION MODULE v2.0

Introduction

These Release Notes detail notable items for the Local Run Manager RNA Fusion Analysis Module v2.0 release.

Please note that the RNA Fusion Analysis Module v2.0 requires Local Run Manager Framework v2.0.0 or higher and is not compatible with Local Run Manager Framework v1.3.1 or lower.

The Local Run Manager software is an integrated solution for recording samples for a run, specifying run parameters, monitoring run status, performing data analysis, The Local Run Manager RNA Fusion analysis module aligns reads against a specified reference using the STAR aligner, and then detects gene fusions using Manta. This workflow is designed specifically for RNA libraries prepared with the TruSight RNA library preparation kit.

For more information about this analysis module and how to use it, refer to the Local Run Manager RNA Fusion Analysis Module Workflow Guide, available from the Illumina Local Run Manager Support Page, Documentation & Literature.

http://support.illumina.com/sequencing/sequencing_software/local-run-manager/documentation.html

NEW FEATURES:

- Added support for processing datasets generated from MiniSeq, MiSeq, and NextSeq 550 sequencing systems.
- Added support for importing and exporting Sample Sheet files on the Run Setup page.
- Added support for entering custom index sequences directly on the Run Setup page.
- Added support for the following special characters to be used as part of the "Run Name" and "Run Description" on the Run Setup page:
- ` ~ ! @ # $ % - _ { }

- Increased the maximum number of samples on the Run Setup page to 1536.
- Change Sample ID maximum to 30 characters.
- Validate chemistry type.
- Apply a filter for RNA only genomes.
- Added Readme file with used open source software license agreements.
- Added analysis sufficient disk space check.
- Module Installer enhancements
    - Update user credentials page text to be more descriptive and easier to read.
    - Update Success, Failure, and Cancel headings.
- Support module uninstallation without Local Run Manager installed.

FIXED ISSUES:

- Restart Local Run Manager Analysis Service on software installation.

KNOWN ISSUES:

- The sample reports are being reordered in the Samples and Results tab.
- If multiple module versions installed, downgrading .EXE installer does not revert to the last active version.
- Custom Primers don't update in the Local Run Manager run if they are updated in the Control Software.
- Not checking if the HumanRNAFusion genome is present before allowing the user to save the run.
- Alignment fails when STAR uses >20 CPU cores.
- If the Local Run Manager Analysis Service is restarted, this could cause a running analysis to crash.

OTHER:

- When using a custom kit, you must always enter your i5 indexes in the MiSeq or forward orientation. Local Run Manager will automatically reverse complement the indexes when writing the sample sheet used for analysis.

Release History

Revision	Release Reference	Originator	Description of Change
00	ER 1008884	Yyen	Initial Release for RNA Fusion Analysis Module v1.0
01	ER 1026974	Arthur Wang	Updated for RNA Fusion Analysis Module v2.0
02	CN 1101973	Yan Hui Hew	- Incorporated the CRN template rev01 - Added a new section for RNA Fusion Analysis Module v3.0 - Moved the previous version of RNA Fusion Analysis Module v2.0 under "Previous Release Notes"