LEXOGEN
The RNA Experts

miRVEL Profiling
Small RNA-Seq Library Prep

Your cost-efficient and convenient solution for sRNA expression analysis

Streamlined sRNA-Seq ideal for profiling studies

The miRVEL Profiling Small RNA-Seq Kit provides a fast, streamlined workflow for sRNA profiling with unique dual indices and adapter blocking, eliminating purification steps prior to library amplification.

The **miRVEL Profiling Small RNA-Seq Library Prep** Kit enables the generation of small RNA-Seq libraries in under 6 hours with only one purification step. The **miRVEL Profiling technology uses adapter blocking** to effectively prevent adapter dimer formation, eliminating the need for gel-based size selection. The workflow starts with 3' adapter ligation, followed by 5' adapter ligation (Fig. 1). The resulting adapter-tagged RNA is then converted into cDNA and proceeds directly to the library amplification step without any prior purification. During the amplification step, 8 nt-long unique dual indices (UDIs) are introduced for unambiguous sample assignment in sequencing experiments. The bead-based purification results in ready-to-sequence libraries.

Exceptional Reproducibility and Robustness

miRVEL Profiling Small RNA-Seq generates excellent gene count correlation between replicates, even for low inputs of 10 ng total RNA from human brain, and across a range of inputs highlighting the **robustness of the miRVEL Profiling protocol** (Fig. 2).
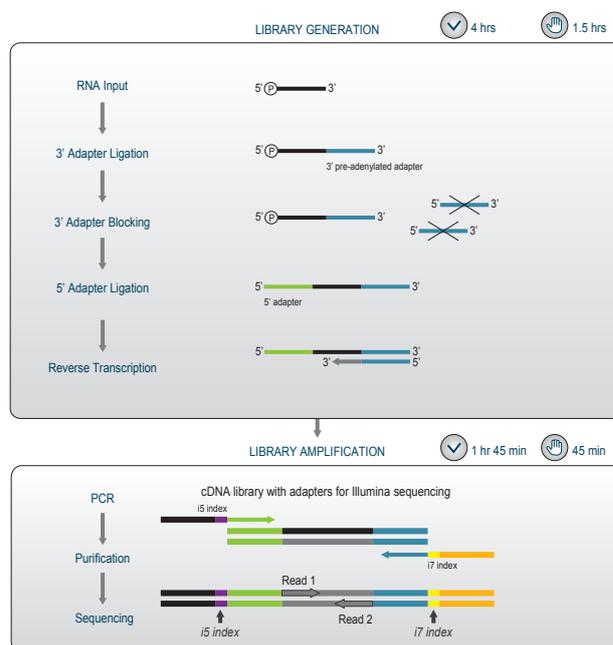

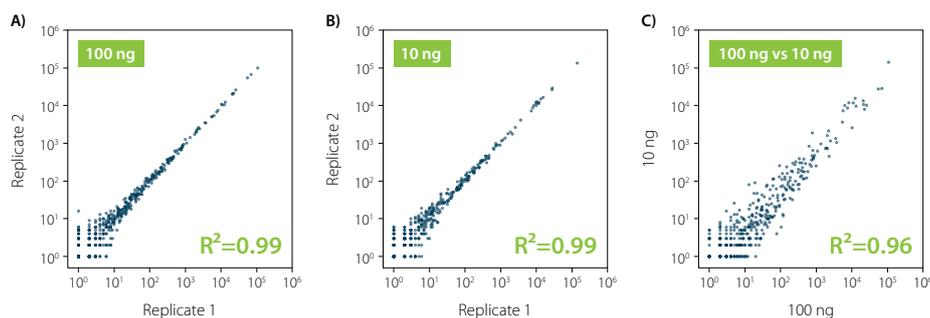Figure 1 | miRVEL Profiling Small RNA-Seq Library Prep Kit Workflow.

Figure 2 | Gene count correlation obtained from miRVEL Profiling Small RNA-Seq. Libraries were generated from 100 ng and 10 ng human brain RNA. A) and B) Correlation between replicates. C) Correlation between 100 ng and 10 ng input RNA amount. The libraries were sequenced on NovaSeq X and downsampled to 1 M read / sample prior to the analysis emphasizing performance even at low sequencing depth.

For more information, visit our website lexogen.com or contact us at sales@lexogen.com

End-to-end Workflow Solutions for Small RNA-Seq and Biomarker Discovery

	RNA Extraction	RNA Preparation	NGS Library Prep	NGS Data Analysis
Small RNA-Seq	SPLIT RNA Extraction	*not needed!*	miRVEL Small RNA-Seq	Small RNA Data Analysis
Small RNA Enrichment	TraPR sRNA Isolation	*not needed!*	miRVEL Small RNA-Seq	Small RNA Data Analysis
Small RNA-Seq Service	Lexogen NGS Services			

The miRVEL line including Discovery and Profiling Small RNA-Seq Kits offer various benefits!

Any sample, any input amount

Tissue, EVs, liquid biopsy samples or even FFPE, down to 1 ng.

Fast and streamlined protocol in less than 6 hours

Optimized protocol, minimized purification steps!

Perfect read assignment with UDIs

All reagents included, complete with dual indexing solutions.

Applications for miRVEL Discovery and Profiling Small RNA-Seq

Small RNA-Seq has numerous applications e.g., dysregulated sRNAs may serve as potential diagnostic and prognostic biomarkers for various diseases. In plants, sRNA-Seq unveils the regulatory networks involved in stress responses, pathogen resistance, and developmental processes.

miRVEL Discovery

- ✓ Ideal choice for **advanced sRNA discovery**
- ✓ **sRNA biomarker discovery** studies
- ✓ hY4 Y RNA blocking for sRNA-Seq from biofluids
- ✓ Accurate small RNA quantification for difficult and degraded samples with UMIs
- ✓ Drug discovery and target screens

miRVEL Profiling

- ✓ Cost-effective choice for **sRNA profiling analyses**
- ✓ sRNA biomarker profiling and expression analysis
- ✓ RNA interference and small RNA-driven host-defense mechanisms
- ✓ Plant and agricultural small RNA research, mode-of-action and developmental networks

Ordering information

Cat. №	Product Name
242	miRVEL Discovery Small RNA-Seq Library Prep Kit, 24 or 96 reactions
Associated Products	
008	SPLIT RNA Extraction Kit, 48 reactions
128	TraPR Small RNA Isolation Kit, 8 or 24 reactions

Ordering information

Cat. №	Product Name
243	miRVEL Profiling Small RNA-Seq Library Prep Kit, 24 or 96 reactions
Associated Products	
008	SPLIT RNA Extraction Kit, 48 reactions
128	TraPR Small RNA Isolation Kit, 8 or 24 reactions
246	PCR Add-on and Reamplification Kit for miRVEL Profiling Small RNA Kit

For more information and additional resources, please visit our website.

NGS Services available!

Lexogen NGS Services offers a variety of customizable service packages for small RNA transcriptomics from a variety of sample types including biofluids, extracellular vesicles, tissue, plant samples and many more. Simply send your samples and let our experts extract the best data possible for you.