

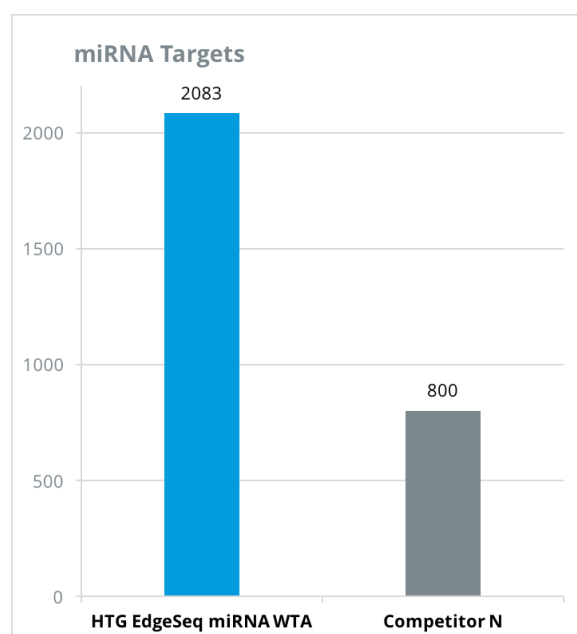
miRNA
Whole
Transcriptome
Assay

HTG EdgeSeq miRNA Whole Transcriptome Assay

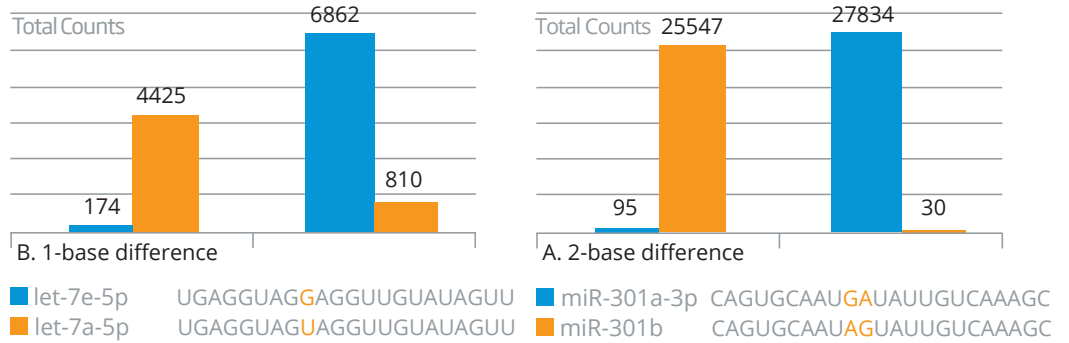
The HTG EdgeSeq miRNA Whole Transcriptome Assay (WTA) is a next generation sequencing (NGS) application that measures the expression of 2,083 human microRNAs (miRNAs) described in the miRBase v20 database. The assay is powered by HTG's quantitative nuclease protection assay and leverages the high sensitivity and dynamic range of NGS. The HTG EdgeSeq instrument automates the nuclease protection step in the library preparation process, significantly reducing the number of hands-on steps for fast and easy use of NGS platforms for miRNA analysis. The extraction-free, lysis-only chemistry significantly reduces sample input requirements compared to other methods and allows miRNA expression profiling from limited, precious FFPE tissues, cell lines, plasma/serum, PAXgene, and purified RNA.

Generate comprehensive miRNA profiles with a single assay

With 2,083 targeted miRNAs, the HTG EdgeSeq miRNA WTA provides more complete coverage than competitive platforms by covering 81% of all mature transcripts identified within miRbase v20 and 88% of the high confidence miRNA transcripts identified.

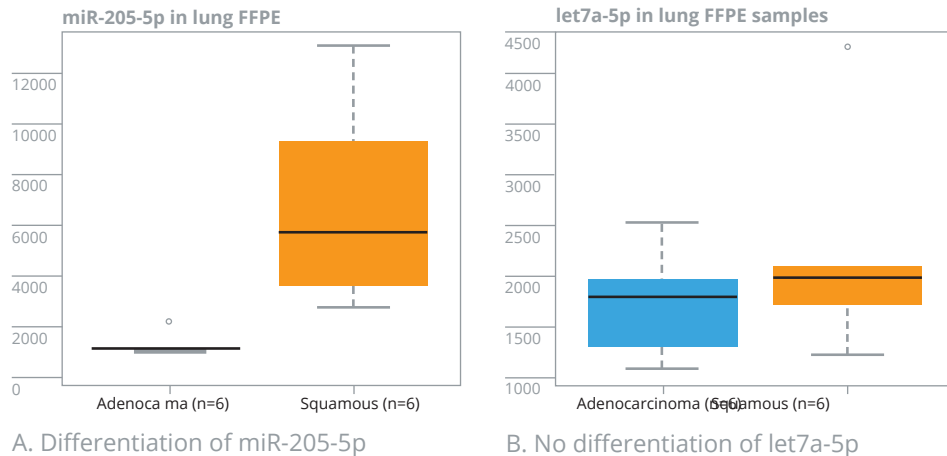


Differentiate between similar miRNA transcripts



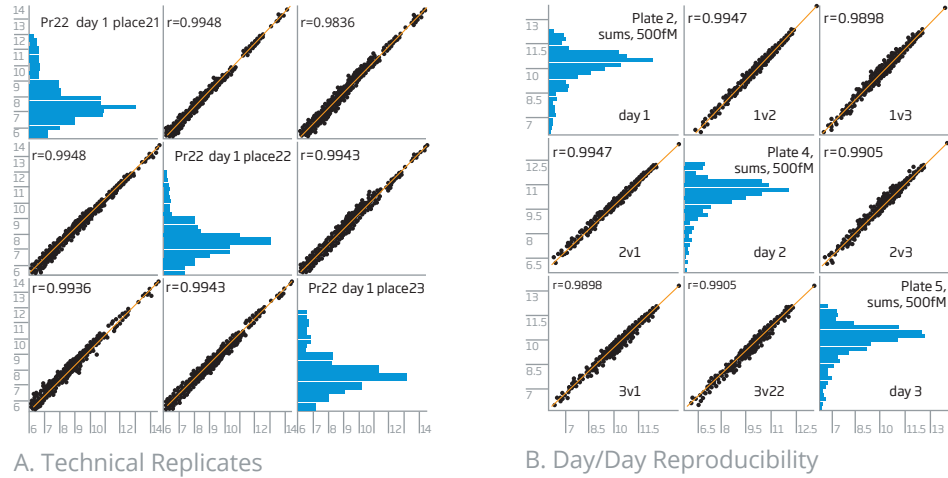
Closely-related synthetic miRNAs from ABRF are split between pools. The examples show on-target and off-target hybridization of the indicated probes for the indicated pools. In panel A, pool 1 contained miR-301b and not miR-301a-3p while pool 2 contained miR-301a-3p and not miR-301b. In panel B, pool 1 contained let-7a-5p and not let-7e-5p while pool 2 contained let-7e-5p and not let-7a-5p. The data demonstrates that the HTG EdgeSeq miRNA WTA differentiates targets with 1 – 2-base differences with a high degree of specificity.

Identify or verify disease-specific biomarkers



miR-205-5p expression is a highly expressed marker for squamous cell carcinoma in lung cancer (source). The HTG EdgeSeq miRNA WTA accurately differentiates squamous and non-squamous lung carcinoma using this marker. As a control, let7a-5p expression is shown as a comparison.

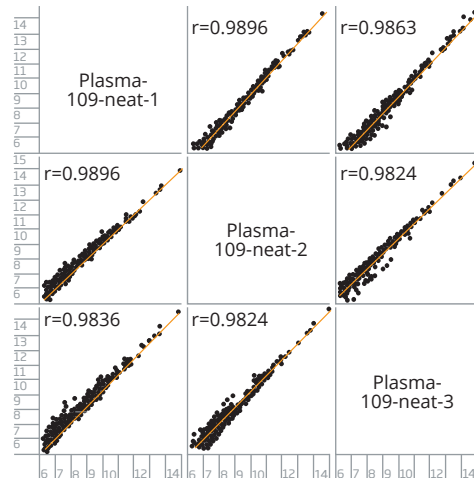
Achieve reproducible data using robust platform and chemistry



An average Pearson correlation value (r) of 0.99 was achieved for technical (A) and day/day (B) reproducibility. All data were generated using the HTG EdgeSeq miRNA Whole Transcriptome Assay and an Illumina MiSeq instrument. The FASTQ data was aligned and expression was measured using the HTG EdgeSeq Parser software.

Compatible with plasma and serum

Donor plasma sample was profiled using the HTG EdgeSeq miRNA WTA. These samples were processed in triplicate. Effective and reproducible profiling is demonstrated with a Pearson correlation value (r) of 0.9836. Sequencing data was generated using the Illumina MiSeq instrument.



Sample Requirements

Sample Type	Sample Input
FFPE Tissue	1.56-12.5 mm ² of a 5 µm section
Plasma	12.5 µL
Serum	12.5 µL
PAXgene	32 µL
Cell Lines	1,250-5,000 cells
Purified RNA	6.25-25 ng

Product Specifications

Design Source	miRbase v20
Targets	2,083

Process Controls

Positive	1 positive probe
Negative	5 ANT probes

Endogenous Controls

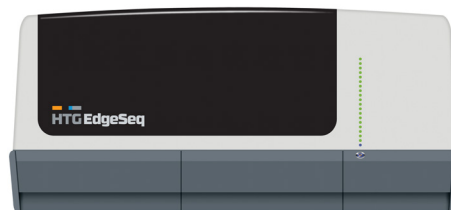
Common	ACTB, B2M, GAPDH, YWHAZ, PPIA
sRNA (Pol3)	RNU47, RNU75, RNY3, SNORA66
rRNA	RPL19, RPS20, RPL27, RSP12

Ordering Information

Catalog #	Product Name	Description
illumina (ILM) Next-Generation Sequencing Systems		
916-001-208	HTG EdgeSeq miRNA WTA ILM (2x8)	2 plates, 8 samples/plate
916-001-008	HTG EdgeSeq miRNA WTA ILM (4x8)	4 plates, 8 samples/plate
916-001-224	HTG EdgeSeq miRNA WTA ILM (1x24)	1 plate, 24 samples/plate
916-001-024	HTG EdgeSeq miRNA WTA ILM (4x24)	4 plates, 24 samples/plate
916-001-096	HTG EdgeSeq miRNA WTA ILM (1x96)	1 plate, 96 samples/plate
Ion Torrent (IT) Next-Generation Sequencing Systems		
916-001-308	HTG EdgeSeq miRNA WTA IT (2x8)	2 plates, 8 samples/plate
916-001-108	HTG EdgeSeq miRNA WTA IT (4x8)	4 plates, 8 samples/plate
916-001-324	HTG EdgeSeq miRNA WTA IT (1x24)	1 plate, 24 samples/plate
916-001-124	HTG EdgeSeq miRNA WTA IT (4x24)	4 plates, 24 samples/plate

Ordering information

Email: orders@htgmolecular.com or contact your local sales representative.



Empowering precision medicine at the local level



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