



miRNA Expression Panel

TEST DESCRIPTION

MicroRNA (miRNA) plays an important role in controlling cellular gene expression and often create inhibitory feedback loops and act as negative regulators. To reveal the miRNAs present in cellular systems, the Mellowes Center utilizes a hybridization method to match, barcode and count the miRNA transcripts present in samples. The panel identifies and can compare expression among conditions of up to 800 biologically relevant miRNA molecules (available as human or mouse panels). Methods for full expression miRNA levels are under development.

SAMPLE TYPES AND REQUIREMENTS

100ng total RNA, human or mouse species
Isolation from a variety of tissue sources (including FFPE)
Consultation with the lab is requested

RECOMMENDED ASSAY

NanoString panel, with up to 800 miRNA targets
Custom miRNA assays can be developed
Cohorts of 12 samples run simultaneously

SUBMISSION REQUIREMENTS

Sample Intake Form and iLabs request. Contact lab for drop off or shipping requirements.

TURNAROUND TIME

2-4 weeks for normalized count files

DELIVERABLES

RNA quality control (PDF)
Raw RCC and RFL files
Normalized count files and differential expression if comparison samples are identified
All annotated data files will be delivered via Mellowes Center portal

TEST METHODOLOGY

Bulk RNA is isolated with methods to ensure miRNA transcripts are maintained with quality confirmed by fragment analysis. Next, miRNA is ligated to unique tags (miRtags) for increased sensitivity and specificity of identification by hybridization probes. The fluorescently labeled and barcoded probes are purified, aligned and imaged on the NanoString nCounter system. nSolver software further quantifies and normalizes presence and level of miRNAs.

BIOINFORMATIC CORE ANALYSIS

Panel miRNA report includes:

- Quality control with mRNA references, spike-in controls and positive and negative probe levels
- Analysis on nSolver software with differential expression among conditions
- Additional analysis via ROSALIND software may be performed

Contact & Submission

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