



Ion AmpliSeq RNA research panels for targeted gene expression analysis

Predesigned and fully customizable RNA panels

Ion AmpliSeq™ RNA research panels enable fast and accurate quantitative gene expression profiling using Ion AmpliSeq™ targeted sequencing technology. Choose from 8 predefined research panels, or edit the gene list of any panel to create a custom targeted panel from a database of >20,000 human RefSeq genes.

Compatible with most sample types, including formalin-fixed, paraffin-embedded (FFPE) samples, Ion AmpliSeq targeted RNA research panels provide a cost-effective alternative to nontargeted whole-transcriptome RNA-Seq and microarray analysis, and offer a broad dynamic range of 5 orders of magnitude to facilitate sensitive detection of low-abundance transcripts. The input range is 1–100 ng of total RNA, and no prior mRNA enrichment is required. The workflow can be automated using the Ion Chef™ System for both library preparation and templating, reducing hands-on time to less than 1 hour. Data analysis is also automated, enabling results from total RNA to gene expression in less than 2 days.

Features

Predesigned panels with curated content, including:

- Pathway research panels for MAPK, WNT, and oncology, and companion ERCC RNA control panel
- Compatibility with blood, cells, tissue, and FFPE research samples
- Low input requirement—as little as 1 ng of total RNA
- Linear dynamic range of >5 logs
- Automatable workflow

Research interest	Product	Gene targets	Biological process
Pathway analysis and oncology studies	Ion AmpliSeq RNA MAPK Pathway Research Panel	197	Cell-signaling pathways regulating growth, differentiation, and proliferation
	Ion AmpliSeq RNA WNT Pathway Research Panel	169	Regulation of signal transduction
	Ion AmpliSeq RNA Human Oncology Pathway Research Panel	605	DNA repair, angiogenesis, cell adhesion, extracellular matrix, cell cycle, and apoptosis
	Ion AmpliSeq RNA Breast Cancer Research Panel	1,174	Development and progression of breast cancer
	Ion AmpliSeq RNA Pancreatic Adenocarcinoma Research Panel	92	Targets genes overexpressed in pancreatic carcinoma
Stem cell research	Ion AmpliSeq RNA Stem Cell Research Panel	930	Human embryonic stem (hES) cell phenotypic variations and tumorigenesis
Inflammation response research	Ion AmpliSeq RNA Inflammation Response Research Panel	683	Inflammation response
Noncoding RNA research	Ion AmpliSeq RNA Long Noncoding RNA Research Panel	418	lncRNAs in tumorigenesis and tumor suppression
Gene expression control	Ion AmpliSeq RNA ERCC Companion Panel	10	Companion RNA control panel for gene expression; developed by the External RNA Controls Consortium (ERCC)

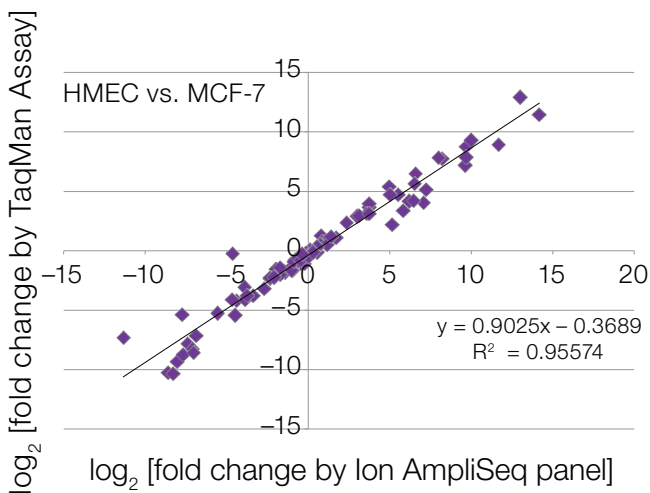


Figure 1. High correlation of relative gene expression analyses using the Ion AmpliSeq RNA Breast Cancer Research Panel and TaqMan Assays. Correlation of measured fold changes between normal HMEC cells and the noninvasive breast cancer cell line MCF-7, for 96 target genes, by two methods of targeted gene expression analysis.

Ion AmpliSeq RNA research panels offer:

- **Comprehensive and accurate gene expression analysis for oncology and human disease research**—predesigned or customizable panels with curated content and companion ERCC RNA control panel
- **Low bias and results that correlate with qPCR**—Ion AmpliSeq RNA panels demonstrate high correlation with Applied Biosystems™ TaqMan® qPCR Assays, the gold standard for quantitative differential gene expression analysis
- **Simple end-to-end workflow with easy data analysis**—auto-analysis of data using Torrent Suite™ Software and the Ion AmpliSeq™ RNA plug-in provides tabulated expression values for each target

To order or customize your Ion AmpliSeq RNA panel:

Please log in to your account at ampliseq.com and select “Pre-designed Panels” and then “All RNA Panels” to see a list of predesigned Ion AmpliSeq RNA panels.

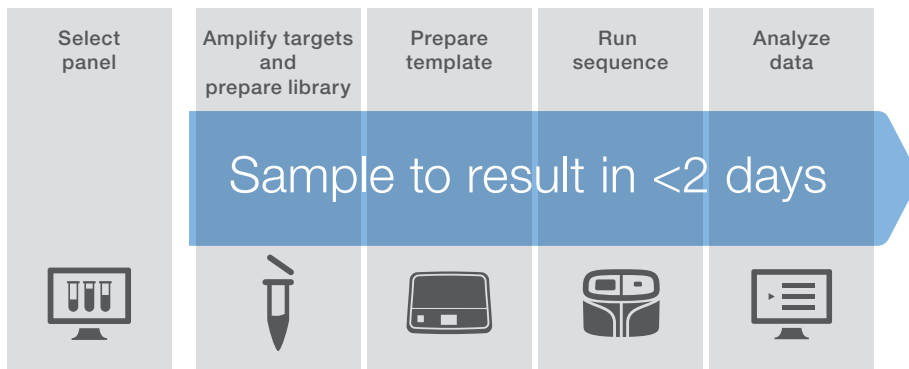


Figure 2. Ion AmpliSeq RNA Panel workflow: hands-on time is less than 1 hr. The workflow, from total RNA to differential gene expression analysis, can be completed in <2 days using the Ion Chef and Ion S5™ Systems.

To order without customization, select an Ion AmpliSeq RNA panel of interest and click “Add to Cart”. To customize, select an Ion AmpliSeq RNA panel of interest and click “Export Targets” to export them to a CSV file. Follow the step-by-step guide to start a new design by importing the CSV file back, and then add or remove any targets to customize the panel.

For additional support, please contact our Technical Support team at **+1 800 955 6288**.

Learn more about Ion AmpliSeq RNA Research panels at thermofisher.com/ampliseq

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