Ion AmpliSeq Transcriptome Mouse Gene Expression Kit

Faster and simpler than whole transcriptome RNA sequencing

Targeted gene-level mouse transcriptome sequencing
Mice are a widely used animal model for human disease research and treatment responses. The Ion AmpliSeq™ Transcriptome Mouse Gene Expression Kit used with the Ion S5™ System enables fast and affordable gene expression analysis from samples that are limited in quantity. With simultaneous amplification of more than 20,000 RefSeq genes in a single tube, starting from as little as 10 ng of total RNA, the Ion AmpliSeq Transcriptome Mouse Gene Expression Kit can be an important tool in oncology and translational research (Figure 1).

Ion AmpliSeq Transcriptome Mouse Gene Expression Kit
Target representation: >90% representation of mouse RefSeq genes

No. of genes designed: 20,767 well-annotated RefSeq genes + 3,163 XM and XR genes*
Input total of RNA required per sample: 10 ng
Recommended sample multiplexing: 8 samples per Ion 540™ Chip

<table>
<thead>
<tr>
<th>Sample name</th>
<th>Mapped reads</th>
<th>Valid reads</th>
<th>Targets detected**</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUR #1</td>
<td>11,988,777</td>
<td>99.84%</td>
<td>75.00%</td>
</tr>
<tr>
<td>MUR #2</td>
<td>12,318,386</td>
<td>99.84%</td>
<td>75.12%</td>
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Low sample input
Start with as little as 10 ng of total RNA.

Fast gene expression profiling with simple workflow
Go from RNA to data in <2 days with ~45 minutes of total hands-on time with the automated workflow of the Ion S5 and Ion Chef™ Systems.

Streamlined data analysis
Export data with Torrent Suite™ Software into your existing analysis software.

Figure 1. Shown are (A) sequencing metrics for BioChain™ Mouse Universal Reference RNA (MUR) and (B) correlation between two replicate MUR libraries. 10 ng of total RNA was used for sample preparation, and 8 resulting libraries were barcoded and run on a single Ion 540 chip.

*XM and XR are RefSeq coding and noncoding transcripts with provisional annotation.
**XM and XR targets are excluded.
Leveraging the speed and simplicity of Ion AmpliSeq™ technology, this ultrahigh-multiplex PCR enrichment approach enables rapid gene expression profiling with minimal hands-on time. This research method provides a faster, simpler, and lower-cost sequencing method that is highly correlated to whole-transcriptome RNA sequencing (RNA-Seq) (Figure 2).

Flexible and fast gene expression workflow
The simplicity and speed of PCR-based library preparation enable a rapid method for gene expression profiling with a workflow of less than two days from sample to analysis (Figure 3). This includes ~45 minutes of total hands-on time with the automated workflow of the Ion S5 and Ion Chef Systems.

Automated data analysis
Streamlined data analysis with Torrent Suite Software v5.6 or higher provides run metrics on technical reproducibility, read alignment, and detection of on-target transcripts automatically. A list of differentially expressed genes (DEGs) is then easily generated using the Ion AmpliSeq™ RNA plug-in. The resulting data files are compatible with existing analysis tools. The Ion AmpliSeq RNA plug-in has been updated to include .CHP files that can be utilized as input to Applied Biosystems™ Transcriptome Analysis Console (TAC) Software for differential gene expression analysis and visualization.

**Ordering information**

<table>
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<tr>
<th>Product</th>
<th>Quantity</th>
<th>Cat. No.</th>
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<tr>
<td>Ion AmpliSeq Transcriptome Mouse Gene Expression Kit*</td>
<td>24 reactions</td>
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<tr>
<td>Ion AmpliSeq Transcriptome Mouse Gene Expression Kit*</td>
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<td>Ion AmpliSeq Transcriptome Mouse Gene Expression Kit*</td>
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<td>Ion Xpress Barcode Adapters 1-16 Kit</td>
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<td>Ion AmpliSeq Transcriptome Mouse Expression, Chef-ready Kit**</td>
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<tr>
<td>Ion AmpliSeq RNA ERCC Companion Panel</td>
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* Includes Ion AmpliSeq™ Transcriptome Mouse Gene Expression Core Panel and Ion AmpliSeq™ Library Plus Kit.
** Includes Ion AmpliSeq™ Transcriptome Mouse Expression Chef-ready Core Panel, and Ion AmpliSeq™ Kit for Chef DL8

Learn about fast and sensitive gene expression analysis at [thermofisher.com/ampliseqtranscriptome](https://thermofisher.com/ampliseqtranscriptome)

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