

NEXTflex™ Directional RNA-Seq Kit (Ligation Based)

产品特点:

- Enhanced Adapter Ligation Technology offers a larger number of unique sequencing reads
- Input - 50 ng of mRNA or rRNA depleted total RNA
- Up to 48 barcodes available for multiplexing
- Utilizes AIR Ligase a highly efficient truncated T4 RNA ligase for greater sequencing depth
- Randomized adapters for non-biased ligation
- Barcoded PCR Primers for multiplexing contain embedded index sequence
- Automation-friendly workflow is compatible with liquid handlers
- Functionally validated with GAIIx, HiSeq and MiSeq platforms

产品介绍:

The patent pending, ligation-based NEXTflex™ Directional RNA-Seq Kits provide an easy, flexible and non-biased solution for generating Illumina-compatible directional single, paired-end and multiplexed libraries from mRNA or rRNA depleted total RNA.

Using the NEXTflex™ Directional RNA-Seq Kits, mRNA or rRNA depleted RNA is fragmented using a cationic buffer. Fragmented RNA is then dephosphorylated, followed by a kinase treatment which adds a 5'phosphate. Fragmented RNA now containing 5'phosphate and 3'hydroxyl groups are then ligated to randomized 3' and 5' adapters followed by first strand synthesis and amplification.

Optimal for insert sizes < 150 bp (mRNA enrichment) or < 100 bp (rRNA depletion), RNA can be sequenced from the 5'-3' end and from the 3'-5' direction thus allowing for thorough and even coverage. Bidirectionality is made possible by using "reverse directional" 3' and 5' adapters with the NEXTflex Directional RNA-Seq protocol. The sequencing read primer binds to the opposite adapter and reads RNA in the 3'-5' direction. Bi-directional sequencing can be performed on the same sample by using barcodes to differentiate the different reads.

While ligation based adapter addition is a hallmark of most NGS library preparations, it is well known that ligases can introduce sequence dependent bias, an un-desirable side effect. Using Bioo Scientific's patent pending randomization technology, mixed bases are incorporated at the ends of the adapter eliminating ligase preference and its resulting bias. This technology is available in both NEXTflex™ Randomized Adapter Sets (for sequencing 5' – 3') and NEXTflex™ Randomized Reverse Adapters Sets (for sequencing 3' to 5'). **The appropriate NEXTflex Randomized Adapter Set or NEXTflex Randomized Reverse Adapter Set should be purchased with each NEXTflex™ Directional RNA-Seq Kit as it is required for functionality.**

Multiplexing

Four sets of 12 NEXTflex™ RNA Directional Barcode Primers, with embedded index sequences are available offering an improved multiplexing workflow and increased flexibility. This new automation-friendly format enables multiplexing of up to 384 samples. The ability to pool samples in an efficient way significantly decreases hands on time while providing robust data quality. The primer barcoding system utilizes a 6 nt index to differentiate up to 48 different samples on a single flow cell lane. 48 barcoded primers are divided into 4 different kits.

For larger volume requirements, customization and bulk packaging is available. For increased flexibility individual reagents (non-master mixed) are also available. Please contact info@sbsbio.com for further information.

Catalog#	Product Name	Quantity
5134-01	NEXTflex™ Directional RNA-Seq Kit	8 rxns
513405	NEXTflex™ Randomized Adapter Set	8 rxns
513415	NEXTflex™ Randomized Reverse Adapter Set	8 rxns
5134-02	NEXTflex™ Directional RNA-Seq Kit	24 rxns
513406	NEXTflex™ Randomized Adapter Set	24 rxns
513416	NEXTflex™ Randomized Reverse Adapter Set	24 rxns
5134-03	NEXTflex™ Directional RNA-Seq Kit	48 rxns
513407	NEXTflex™ Randomized Adapter Set	48 rxns
513417	NEXTflex™ Randomized Reverse Adapter Set	48 rxns