On the mend.

NEBNext® FFPE DNA Repair Mix from New England Biolabs®

While archiving of clinical materials as Formalin-Fixed, Paraffin-Embedded (FFPE) samples is common, it causes significant damage to the sample’s DNA. As a result, such samples can be difficult to sequence. The cocktail of enzymes in the NEBNext FFPE DNA Repair Mix repairs multiple types of damage that are common among FFPE samples, thereby improving yields and overall library success rates.

Make sure your sample’s DNA is on the mend before your next sequencing experiment!

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TRIzol® in, RNA out

Direct-zol™ RNA Purification

High-quality small & large RNA

Non-biased miRNA recovery

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Innovative technology:
Mix sample in TRIzol®, TRI Reagent®, or similar.
Add ethanol & load into the Clean-Spin™ column.
No phase separation, no precipitation, no RNA loss.

High-quality small and large RNAs are effectively recovered using the Direct-zol® kit. RNA is DNA-free.

The data show RNA purified from TRIzol® samples using the Direct-zol™ RNA MiniPrep compared to an unbiased method (miRNA™ Ambion). MicroRNA analysis was performed using miRNA-Seq (MiSeq®, Illumina) and a direct hybridization assay (nCounter®, NanoString).

Product | Cat. No. | Size
--- | --- | ---
Direct-zol™ RNA MiniPrep | R2050, R2051*<br>R2052, R2053* | 50 Preps.<br>200 Preps.
Direct-zol™-96 RNA | R2054, R2055*<br>R2056, R2057* | 2 x 96 Preps.<br>4 x 96 Preps.
Direct-zol™-96 MagBead RNA | R2100, R2101*<br>R2102, R2103*<br>R2104, R2105* | 2 x 96 Preps.<br>4 x 96 Preps.<br>8 x 96 Preps.

* = Supplied with TRI Reagent®

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Multiplexing PCR Amplicons

Direct polymerase chain reaction (PCR) amplification of a specific region is a powerful technique to perform targeted sequencing. When combined with multiplexing capability, PCR amplification is an efficient manner to study many samples. PacBio offers two barcoding strategies for multiplexing up to ninety-six 10 kb amplicons. In the first approach, barcodes are added to the end of the amplicon during PCR and the standard SMRTbell adapter is subsequently ligated onto the barcoded amplicon. In the second approach, the barcode is added to the SMRTbell adapter and the amplicon is ligated to the SMRTbell barcoded adapter. The second approach is recommended for validated PCR systems since the amplicon is generated with the unmified primers. The first approach provides researchers more cost savings because the barcode is added to the amplicon and samples can be pooled prior to the SMRTbell template preparation steps.

PacBio
For info: 877-920-7222
www.pacb.com

ChIRP RNA Interactome Kits

Magna ChIRP RNA Interactome Kits allow researchers to more easily identify, recover, and analyze regions of chromatin that interact with chromatin-associated RNAs such as long noncoding RNA (lncRNA). The highly effective multiprobe-based capture strategy uses cross-linked chromatin to provide reliable detection and discovery of RNA-associated genomic DNA sequences, RNA sequences, and proteins. The new kits use the ChIRP method (Chromatin Isolation by RNA Purification) to isolate chromatin complexes using RNA as the target, allowing researchers to pinpoint specific sites of genomic interaction for chromatin-associated RNAs. The kits simplify the ChIRP method, providing all necessary buffers, enzymes, and reagents in one validated kit as well as a negative control probe set and detailed protocol with capture probe design guidelines. In addition, first-time users can opt for the EZ-Magna ChIRP kit, which includes a positive control capture probe set and detection primers that make it easier to validate an experiment’s success.

EMD Millipore
For info: 800-645-5476
www.emdmillipore.com/chirp

Real-Time PCR Systems

New real-time polymerase chain reaction (PCR) systems that fully integrate with cloud computing technology mark a new era in data sharing and global research collaboration. Designed for low to mid throughput laboratories conducting real-time PCR experiments, QuantStudio 3 and 5 are the first to connect to the Thermo Fisher Cloud computing platform, allowing researchers to learn, analyze, share, collaborate, and obtain support within a single platform. Researchers worldwide can now collaborate online in real-time, and access their data wherever and whenever necessary. Laboratories can also share experimental conditions and results with their partners, while providing a uniform experience for every user, and helping minimize training and errors. With the Applied Biosystems QuantStudio 3 and QuantStudio 5 Real-Time PCR systems hosted on Amazon Web Services (AWS), these PCR systems benefit from the inherent security of the AWS Cloud. The new instruments seamlessly integrate with existing analysis workflows, syncing with next generation sequencing, capillary electrophoresis, and qPCR applications to create a customized data ecosystem.

Thermo Fisher Scientific
For info: 800-678-5599
www.thermofisher.com

GeneChip Whole-Transcriptome Arrays

The GeneChip WT Pico Kit is designed for gene expression array target preparation from as little as 100 pg of total RNA input. Working with as few as 10 cells, the new kit offers a high degree of flexibility and precision, enabling analyses of samples too small for other methods as well as the interrogation of small subpopulations of cells within larger samples. For use with Affymetrix’ GeneChip Whole-Transcriptome Arrays, the new WT Pico Kit is compatible with small sample isolation techniques, including flow cytometry, laser capture microdissection, and fine needle aspiration. The kit prepares targets from multiple sample types, including fresh and frozen tissues, cultured cells, FFPE specimens, and whole blood samples without a globin mRNA reduction step. The use of a single kit for multiple sample types improves the ability to better compare data from different samples, especially important for translational research.

Affymetrix
For info: 888-362-2447
www.affymetrix.com

NGS Software Analysis Templates

Customized analysis workflow templates have been incorporated into the NextGENe NGS software providing users of the ThunderBolts Cancer and Myeloid Panels with pre-defined settings for detecting minor allele frequencies at different sensitivity settings (1% and 5%). Use of the pre-defined NextGENe settings for the ThunderBolts panels provides a simple, automated, accurate, and rapid NGS bioinformatics workflow solution on the analysis of important oncogenes of clinical relevance to cancer diseases, with important results visualization provided by NextGENe software. Through the NextGENe AutoRun, a template for the ThunderBolts Cancer or Myeloid Panel can now be selected. With a single click of the template, our users will have configured a project to automatically trim the adapters and primer sequences from the ends of reads, set the appropriate read alignment settings, chosen an appropriate variant detection sensitivity and selected useful quality and variant reports to be generated.

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Will you be meeting a Nobel Prize winner this December?
(If you have a recent PhD you could be.)

Stockholm in the second week of December is a special place. The city is alive with excitement as it welcomes and celebrates the new Nobel Laureates at the annual Nobel Prize ceremony.

If you are a PhD student, you could be here too – meeting a Nobel Laureate and receiving a rather special prize yourself.

The journal Science & SciLifeLab have established The Science & SciLifeLab Prize for Young Scientists, to recognize and reward excellence in PhD research and support young scientists at the start of their careers. It’s about bright minds, bright ideas and bright futures.

Four winners will be selected for this international award. They will have their essays published in the journal Science and share a new total of 60,000 USD in prize money. The winners will be awarded in Stockholm, in December, and take part in a unique week of events including meeting leading scientists in their fields.

"The last couple of days have been exhilarating. It has been an experience of a lifetime. Stockholm is a wonderful city and the Award winning ceremony exceeds my wildest dreams.”
Dr. Dan Dominissini, 2014 Prize Winner

Who knows, The Science & SciLifeLab Prize for Young Scientists could be a major stepping stone in your career and hopefully one day, during Nobel week, you could be visiting Stockholm in December once again.

The 2015 Prize is now open. The deadline for submissions is August 1, 2015.
Enter today: www.sciencemag.org/scilifelabprize

The 2015 Prize categories are:
• Cell and Molecular Biology
• Ecology and Environment
• Genomics and Proteomics
• Translational Medicine

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