Tissue Homogenizer
The benchtop Precellys 24 is dedicated to the grinding, lysis, and homogenization of biological samples. It can handle difficult samples such as microorganisms and bacteria spores; hard tissues such as teeth and bone; kidney, muscle, and hair; soil samples; plants; and more. It can load up to 24 tubes simultaneously. Protocols are flexible and easy to set. Buffer and samples are added in 2-ml tubes prefilled with specific beads, either glass, ceramic, or metal. The single-use tubes prevent cross-contamination. The high speed and specific motion guarantee homogeneous and efficient grinding for reproducible, high-quality results.
Bertin Technologies
For information +331 39 30 61 69
www.bertin.fr

Multi-blocking Oligonucleotides
The Multi-Blocking Morpholino oligonucleotides inhibit the activity of a targeted miRNA by blocking several steps of its maturation. The oligonucleotides inhibit that activity by sterically interfering with: Drosha cleavage of pri-messenger RNA, Dicer cleavage of pre-miRNA, loading of miRNA onto the RNA-induced silencing complex (RISC), and recognition of miRNA targets by the miRNA strand on RISC. The strategy is to synthesize a 31-base Morpholino oligonucleotide that is complementary to the miRNA and extends one base over the flanking sequence past the Drosha cleavage site, with the balance of the bases extending into and complementary to the loop sequence. Because the loop contains many unpaired bases, the Multi-blocking Morpholino has many single-stranded bases available for nucleate pairing and strand invasion. The duplex portion of the miRNA sequence is not perfectly paired, favoring invasion of the miRNA sequence by the Multi-blocking Morpholino.
Gene Tools
For information 541-929-7840
www.gene-tools.com

miRNA Expression Analysis
A complete suite of reagents, instruments, and protocols is dedicated to the investigation of miRNAs by quantitative reverse transcription-polymerase chain reaction (qRT-PCR). The mirVana miRNA Isolation Kit, TaqMan miRNA RT Kit, TaqMan miRNA assays, and 7900HT Fast Real-Time PCR System provide a reliable and ready-to-use approach for quantitation of miRNA expression levels from a variety of sample types. The products offer a lower barrier to getting started and reduced technical variability in experiments backed by solid technical support.
Ambion, an Applied Biosystems Business
For information 512-651-0200
www.ambion.com/catalog/workflows/miRNA

Small Interfering-RNA
FlexiTube siRNA (small interfering-RNA) enhances the flexibility of Qiagen’s range of RNA interference (RNAi) solutions by providing a cost-effective option for analysis of small numbers of human or mouse genes. FlexiTube siRNAs are provided in economical 1-nmol amounts. They are designed using neural network technology based on a large set of data from siRNA experiments. The siRNA design is then checked for homology to all other sequences of the genome using an up-to-date, nonredundant sequence database and a proprietary homology analysis tool. Design features include 3’ untranslated region/seed region analysis, single nucleotide polymorphism avoidance, and interferon motif avoidance.
Qiagen
For information 800-426-8157
www.qiagen.com/siRNA

Linker Oligonucleotides for miRNA Cloning
Three different adenylated linker oligonucleotides are available for miRNA library construction without the use of ATP. Linker-1 contains a Ban-1 restriction site. Linker-2 contains Ava-I and Sty-I restriction sites. Linker-3 contains EcoR-I and Msp-I restriction sites. All three linkers are modified to prevent self-ligation and can improve the cloning efficiency of miRNAs that have a 5’-phosphate and react unfavorably when attaching linkers using RNA ligase in the presence of ATP. Traditionally, RNA ligase makes use of ATP to adenylate the 5’-end of a single-stranded nucleic acid sequence. The activated adenylated oligomer is then ligated to the 3’-OH of a second single-stranded sequence. In the absence of ATP, these adenylated oligonucleotides containing a pyrophosphate linkage are substrates for T4 RNA ligase.
Integrated DNA Technologies (IDT)
For information 800-328-2661
www.idtdna.com

Eukaryotic mRNA
The capping of in vitro transcribed RNA improves the stability and in vivo translation efficiency of transfected messenger RNA (mRNA) in most eukaryotic cells. Capped mRNA is also more efficiently translated in some in vitro translation system. The ScriptCap m’G Capping System builds the Cap 0 structure found on the 5’-end of most eukaryotic mRNA molecules. Based on the trifunctional vaccinia virus capping enzyme, this system includes all of the components necessary to convert RNA containing a 5’-triphosphate to Cap 0 RNA.
Epicentre Biotechnologies
For information 800-284-8474
www.epibio.com/scriptcapvce.asp

Internet Access to RNA
An array of RNA samples available through an e-commerce site include those from common cancers such as breast and colon cancer. The company plans to add thousands of RNA samples from a wide range of diseases. Each sample of total RNA is from an individual donor and supplied in 5-μg aliquots. Each sample includes clinical data and pathology report details so the clinical context of the RNA can be understood. Each sample has been quality-assured through the use of the Agilent Bioanalyzer and confirmed to have an RNA integrity number of at least 6. This ensures that the materials are suitable for all forms of gene expression analysis, from Northern blots to Affymetrix chips.
Asterand
For information 313-263-0960
solutions.asterand.com