

### For purification of total RNA, including microRNA, from whole blood stabilized in PAXgene Blood RNA Tubes

The PAXgene Blood miRNA System\* consists of PAXgene Blood RNA Tubes for collection, stabilization, and transport of blood, and the PAXgene Blood miRNA Kit for purification of total RNA, including RNA longer than approximately 18 nucleotides. Purification is carried out using silica-based RNA purification technology in a spin-column format. Purification can be carried out manually, using a microcentrifuge, or automated on the QIAcube® (Figure 1). Used with the tubes, the kit provides a complete preanalytical solution for collection and stabilization through to purification of high-quality total RNA, including miRNA, for molecular analysis.

### Benefits of the PAXgene Blood miRNA System include:

- Integrated system for collection, stabilization, and purification
- Effective purification of total RNA, including miRNA
- RNA stabilization for up to 3 days at 18–25°C or at least 50 months at –20°C or –70°C



**Figure 1. The QIAcube.** Samples can be processed manually or automated on the QIAcube.

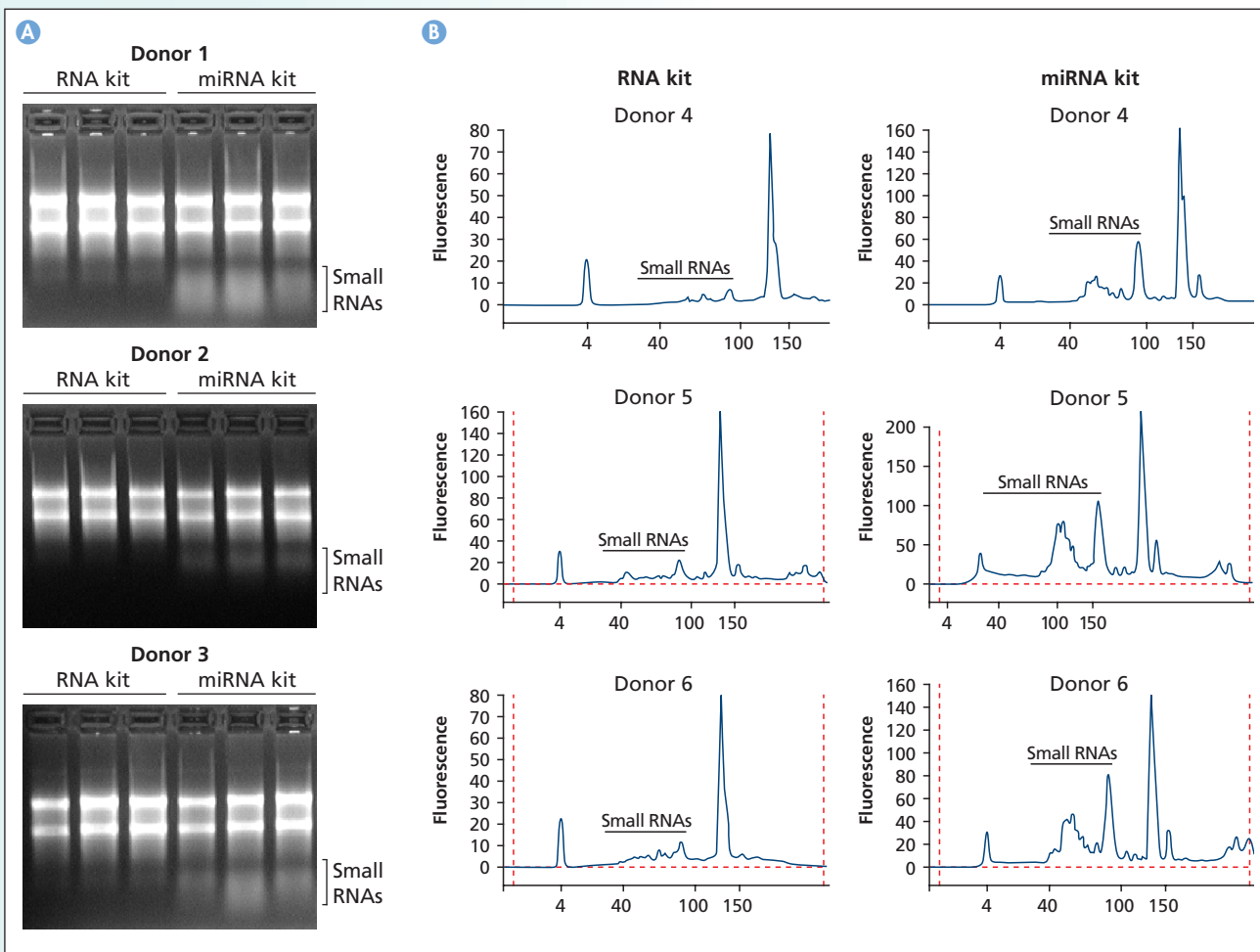
\* For Research Use Only. Not for use in diagnostic procedures. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

## Integrated system for collection, stabilization, and purification

Blood samples are collected in PAXgene Blood RNA Tubes, which contain a reagent that lyses blood cells and immediately stabilizes intracellular RNA to preserve the gene expression profile. RNA stabilization is critical for reliable downstream gene expression analysis. Without stabilization, degradation of RNA and upregulation or downregulation of transcripts occur immediately after blood is drawn. Blood samples collected in PAXgene Blood RNA Tubes can be safely stored or transported at 15–25°C for up to 72 hours, at 2–8°C for up to 5 days, or at –20°C or –70°C for at

least 50 months without showing any significant RNA degradation or changes in transcript levels.

Total RNA >18 nucleotides (including miRNA) is purified from the stabilized blood samples using well-established PAXgene silica-membrane technology. With the PAXgene Blood miRNA Kit, RNA molecules longer than 18 nucleotides are purified. The purified RNA includes both mRNA and small RNAs such as miRNA (Figure 2). The miRNA species can be analyzed using the QIAGEN® miScript PCR System (Figure 3) or other real-time RT-PCR systems.



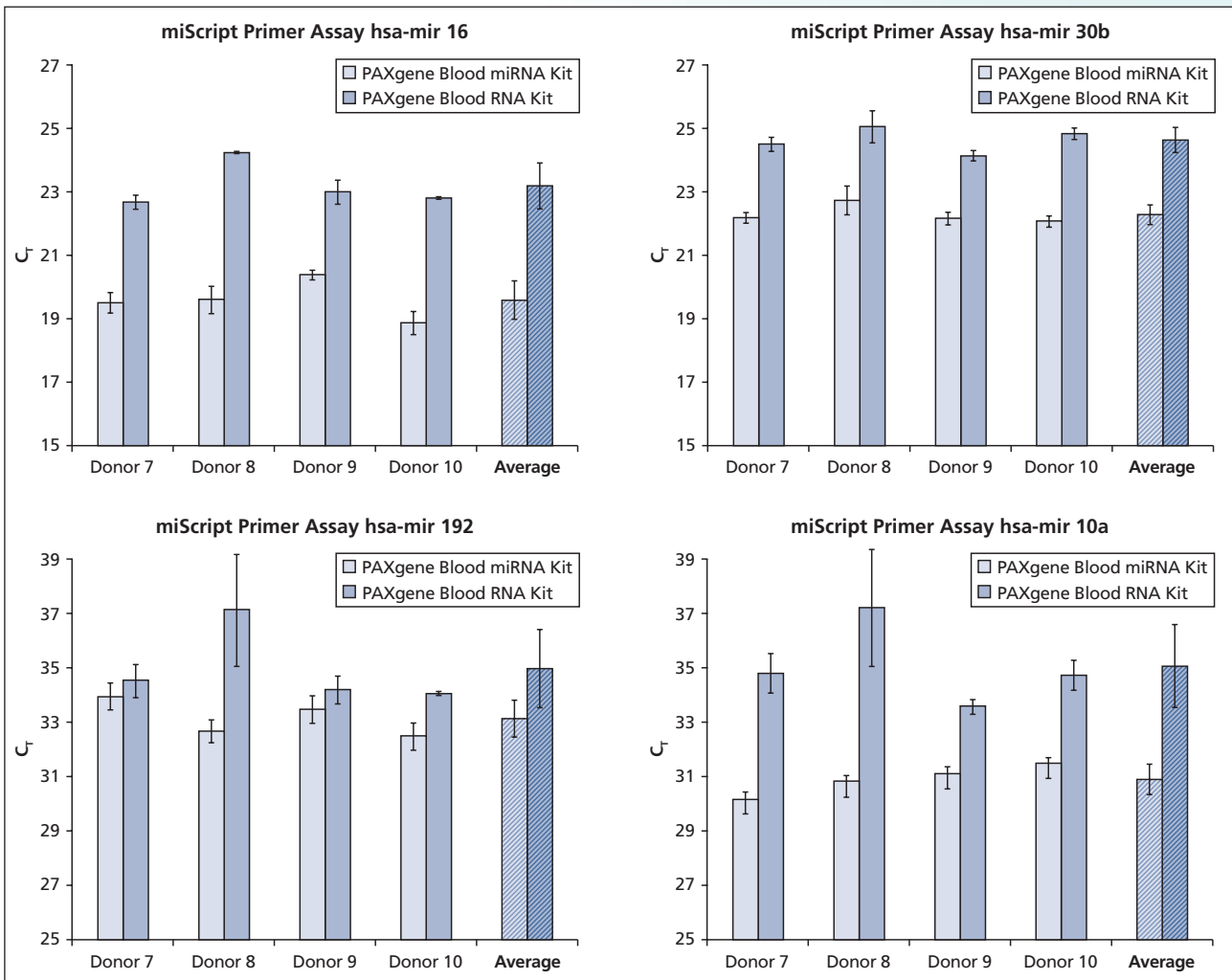
**Figure 2. High yields of small RNA species.** Blood was collected in PAXgene Blood RNA Tubes and stored for 20–24 hours at room temperature before freezing at –15 to –30°C. RNA was purified using the PAXgene Blood RNA Kit (**RNA kit**) or the PAXgene Blood miRNA Kit (**miRNA kit**). **A** Purified RNA was analyzed by agarose gel electrophoresis. **B** Purified RNA was analyzed using the Agilent® Small RNA LabChip. Small RNA species were significantly enriched when using the PAXgene Blood miRNA Kit.

## High-quality RNA and miRNA for a wide range of applications

The purified total RNA is ready to use and is ideally suited for any downstream application, including:

- RT-PCR and real-time RT-PCR
- Differential display

- cDNA synthesis
- Northern, dot, and slot blot analyses
- Primer extension
- Poly A<sup>+</sup> RNA selection
- RNase/S1 nuclease protection
- Microarray analysis



**Figure 3. Analysis of miRNA species using sensitive miScript assays.** Blood was collected and RNA purified as described in Figure 2. miRNA species were analyzed using the QIAGEN miScript PCR System, with the indicated miScript Primer Assays. The lower  $C_T$  values for RNA purified using the PAXgene Blood miRNA Kit indicate higher amounts of those miRNA species.

## Ordering Information

Product	Contents	Cat. no.
PAXgene Blood miRNA Kit (50)	50 PAXgene Spin Columns, Processing Tubes, RNase-Free DNase I, RNase-Free Reagents and Buffers. To be used in conjunction with the PAXgene Blood RNA Tubes	763134
PAXgene Blood RNA Tubes (100)	100 Blood Collection Tubes; available from BD and BD authorized distributors	762165

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at [www.qiagen.com](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

**Discover the wide range of PAXgene Kits at [www.PreAnalytiX.com](http://www.PreAnalytiX.com)!**

Trademarks: PAXgene®, PreAnalytiX® (PreAnalytiX GmbH); QIAGEN®, QIAcube® (QIAGEN Group); Agilent® (Agilent Technologies, Inc.).  
1056736 04/2009 © 2009 QIAGEN, all rights reserved.

### PAXgene products distributed by QIAGEN:

#### Australia

Tel: 03.9840.9800  
Fax: 03.9840.9888

#### Belgium

Tel: 0800.79612  
Fax: 0800.79611

#### Canada

Tel: 800.572.9613  
Fax: 800.713.5951

#### France

Tel: 01.60.920.920  
Fax: 01.60.920.925

#### Germany

Tel: 02103.29.12400  
Fax: 02103.29.22000

#### Italy

Tel: 02.33430411  
Fax: 02.33430426

#### Japan

Tel: 03.5547.0811  
Fax: 03.5547.0818

#### Luxembourg

Tel: 8002.2076  
Fax: 8002.2073

#### The Netherlands

Tel: 0800.0229592  
Fax: 8000.0229593

#### Switzerland

Tel: 061.319.30.31  
Fax: 061.319.30.33

#### United Kingdom

Tel: 01293.422.911  
Fax: 01293.422.922

#### United States

Tel: 800.426.8157  
Fax: 800.718.2056

To find the distributor closest to you: [www.PreAnalytiX.com](http://www.PreAnalytiX.com)