



**Technical Note**  
**PAXgene® Blood RNA MDx System**

**Typical total RNA Yields from PAXgeneBlood RNA Tubes processed with  
BioRobot® instruments and the PAXgene Blood RNA MDx Kit**

**Study Design**

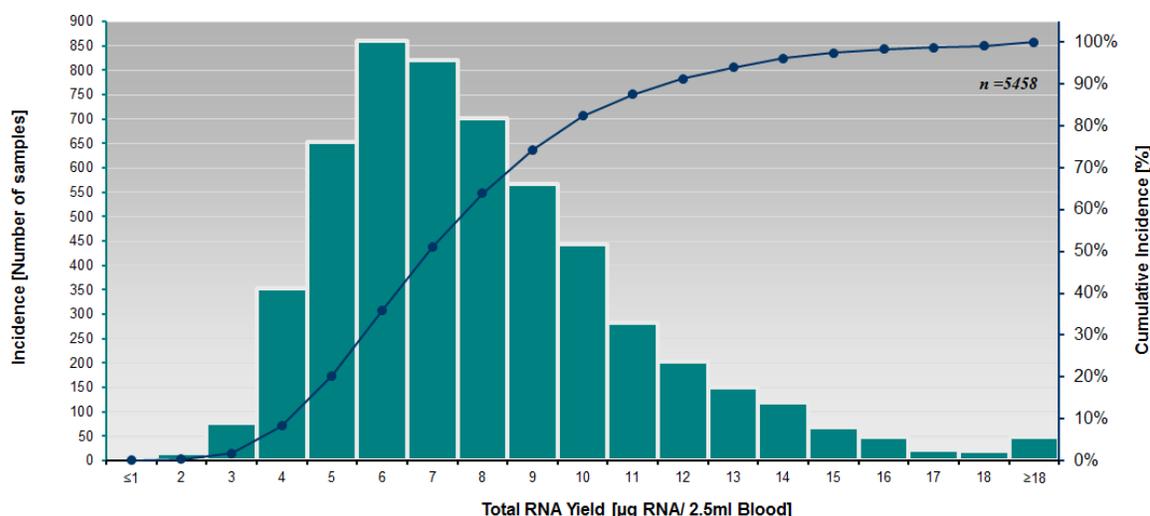
Human whole blood was collected into multiple PAXgene Blood RNA tubes from each of approximately 200 apparently healthy, consented adult subjects. For this study, RNAs from a total of 5458 specimens were extracted and analyzed. While specimens collected in PAXgene Blood RNA Tubes were used for different studies, all specimens were stored according to manufacturer's recommendations: up to three days at room temperature, up to five days at 2–8°C, or frozen at –20°C or –80°C. Total RNA from the samples was extracted following instructions in the PAXgene Blood RNA MDx Kit Handbook on five BioRobot instruments. Approximately one-half of the specimens (49%) were processed on two BioRobot Universal Systems and the remaining specimens (51%) were processed on three BioRobot MDx instruments. The concentration of RNA in extraction eluates was determined by measuring the absorbance at 260 nm ( $A_{260}$ ) in a spectrophotometer and using the relationship: 1 absorbance unit at 260 nm = 44  $\mu\text{g}$  of RNA per ml. RNA yield is expressed as  $\mu\text{g}$  RNA per 2.5 ml whole blood.

**Results**

For 5458 specimens collected in PAXgene Blood RNA Tubes, stored under various conditions, and extracted with BioRobot instruments and the PAXgene Blood RNA MDx Kit, the yield per specimen for the majority (79%) of specimens was 5–18  $\mu\text{g}$  of RNA. Specimens rich in RNA yielded above 18  $\mu\text{g}$  (1%), and 20 percent of the samples yielded less than 5  $\mu\text{g}$ . Less than two percent (1.76%) of the specimens yielded <3  $\mu\text{g}$  of RNA per specimen (Figure 1).

**Conclusion**

According to the PAXgene Blood RNA MDx Kit Handbook, typical RNA yields from whole blood are  $\geq 3 \mu\text{g}$  RNA from 2.5 ml of blood for >95% of all specimens (see the PAXgene Blood RNA MDx Kit Handbook, p. 8). This study demonstrated that in a large study of 5458 specimens, the actual RNA yields from whole blood were  $\geq 3 \mu\text{g}/2.5 \text{ ml}$  blood for 98.24% of all specimens. For 79% of the samples the yield was in the range of 5–18  $\mu\text{g}$  RNA.



**Figure 1. Distribution of total RNA yields from PAXgene Blood RNA Tubes.** Total RNA yield was determined from each of 5458 blood specimens collected into PAXgene Blood RNA Tubes. The tubes were stored under different conditions according to manufacturer’s recommendations. RNA was extracted on BioRobot instruments following the protocol of the PAXgene Blood RNA MDx Kit Handbook. RNA yield ( $\mu\text{g}/2.5$  ml blood) is depicted for individual specimens (Incidence) and as a percentage of the total (Cumulative Incidence).

## **Products used**

<b>Product</b>	<b>Catalog No.</b>
PAXgene Blood RNA Tubes (100)	762165
PAXgene Blood RNA MDx Kit (4)	762431
BioRobot Universal System (QIAGEN)	9001094
BioRobot MDx (QIAGEN)	discontinued

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PreAnalytiX GmbH, 8634 Hombrechtikon, CH.

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