

Lexogen RNA-Seq for Blood Samples

For whole blood sequencing experiments that are not in vein!

Detect More Genes from Blood Samples

Get the best sequencing results with convenient RNA-Seq workflows!

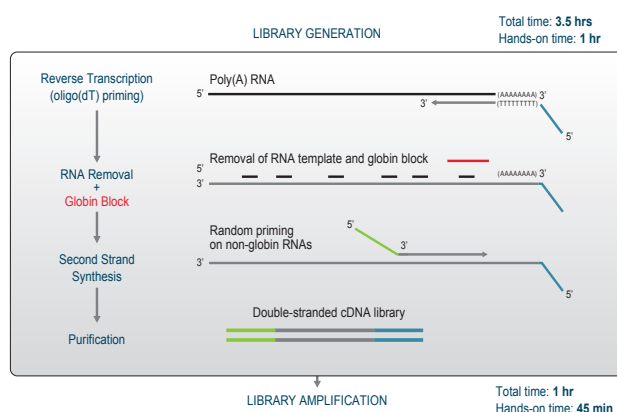


Figure 1 | QuantSeq workflow, library generation

Option 1: 3' mRNA-Seq

QuantSeq technology focuses on the 3' ends of all polyadenylated transcripts in your sample. Starting from total RNA, an oligo(dT) primer initiates reverse transcription (first strand synthesis) and random priming (second strand synthesis) completes cDNA library generation (Fig. 1). **Globin Block Modules** can be seamlessly integrated into QuantSeq library generation for in-prep depletion of globin mRNAs from human and pig whole blood RNA.

RiboCop HMR rRNA plus Globin depletion

Total time: 1.5 hrs Hands-on time: 0.5 hrs

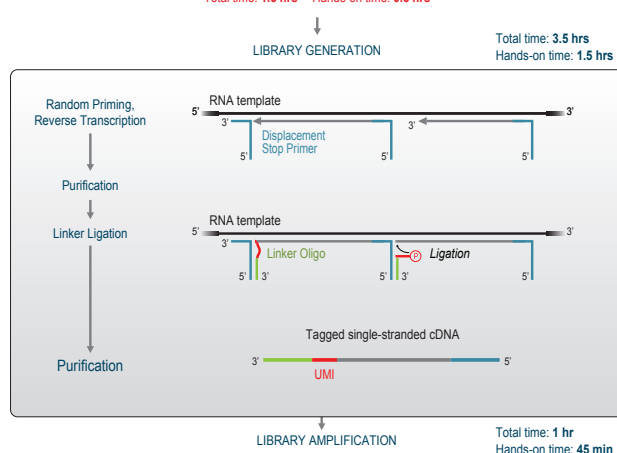


Figure 2 | CORALL workflow, library generation

Option 2: Whole Transcriptome RNA-Seq

CORALL technology covers the whole length of the RNA molecule and uses our patented displacement-stop oligos to generate fragments all along the gene (Fig. 2). Paired with **RiboCop for simultaneous rRNA and globin depletion**, CORALL allows to study non-coding RNA (e.g., lncRNA) of the blood. Combined with an additional poly(A) selection step, **CORALL for whole blood mRNA-Seq** will help you decipher the full mRNA transcript without wasting reads on abundant globin mRNAs.

Find the optimal solution for your project with **Lexogen's whole blood RNA-Seq workflows** - customized NGS Service for blood samples is also available!

QuantSeq 3' mRNA-Seq with In-prep Globin Block Efficiently Removes Globin mRNA

QuantSeq is ideal for gene expression analysis studies (GEX), including whole blood GEX studies. Libraries prepared with QuantSeq and Globin Block Modules show significant reduction of total globin mapped read percentages, compared to libraries prepared with standard QuantSeq. Total globin mapped read percentages were significantly reduced with depletion rates >80 % (Fig. 3).

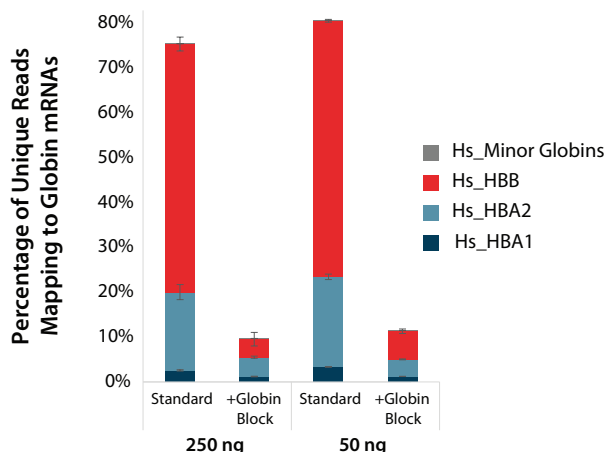


Figure 3 | Reads mapping to human globin mRNAs for QuantSeq libraries generated from 250 ng and 50 ng RNA input with and without Globin Block

Increase Gene Detection from Whole Blood Samples by Depletion of Globin mRNAs

Sequence what matters most by combining CORALL mRNA-Seq with simultaneous rRNA and globin depletion to efficiently remove globin mRNA and free up sequencing space for your mRNAs of interest (Fig. 4).

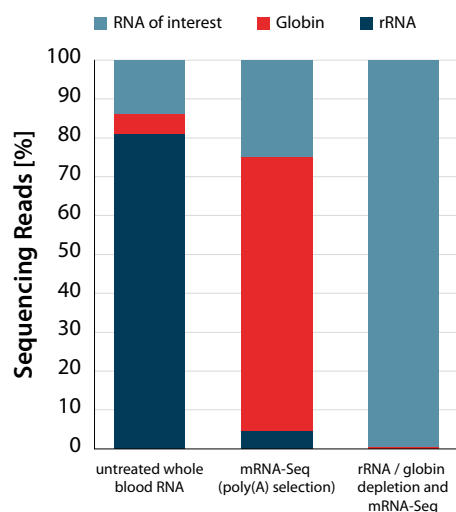


Figure 4 | CORALL mRNA-Seq V2 with an rRNA and globin depletion step efficiently removes globin mRNA from human whole blood RNA for mRNA-Seq applications.

CORALL Whole Transcriptome RNA-Seq Workflow for Whole Blood RNA-Seq

The combination of CORALL mRNA-Seq with an additional RiboCop depletion step for removal of rRNA and globin mRNA provides a convenient workflow to process even stored blood samples (Fig. 5). This workflow frees up sequencing space for mRNAs of interest and leads to a significant increase in gene detection.



Figure 5 | CORALL mRNA-Seq V2 with an additional rRNA and globin depletion step efficiently increases usable reads for mRNA-Seq applications using whole blood samples. Lexogen RNA-Seq workflows for blood samples are compatible with established blood collection systems, including PAXgene.

Key Benefits for Whole Blood RNA-Seq:



Convenient and efficient globin removal from whole blood RNA samples!



Accurate gene and transcript expression analysis with UMIs (built-in for CORALL, as Add-on for QuantSeq).



Easily scalable automation-friendly workflows; from sample to sequencing-ready-libraries in only one day.

In Need for Data Analysis?



Lexogen provides convenient data analysis solutions for 3' mRNA-Seq and Whole Transcriptome sequencing to help you get to your results faster!

Contact support@lexogen.com for more information.

Full NGS Services available!



Trust your whole blood samples to Lexogen NGS Services and let our experts extract data of highest quality for you.

Ordering Information

Cat. №	Product Name
191 and 192	QuantSeq 3' mRNA-Seq V2 Library Prep Kit FWD with UDI 12 nt Set A1 (191) and Set B1 (192)
070 and 071	Globin Block Modules for QuantSeq for <i>homo sapiens</i> (070) and <i>sus scrofa</i> (071)
081	UMI Second Strand Module for QuantSeq FWD, also compatible with Globin Block Modules
171 and 175	CORALL RNA-Seq V2 Library Prep Kit with UDI 12 nt Set A1 (171) and Set B1 (175)
185 and 186	same as 171 and 175, with added RiboCop rRNA + Globin depletion - Set A1 (185) and Set B1 (186)
157	Poly(A) RNA Selection Kit V1.5

For more information and additional resources, please visit our [website](https://www.lexogen.com).

