

AHARIBO Translatome Total RNAseq



Introduction

IMMAGINA BIOTECHNOLOGY provides an innovative complete solution for translatomic analysis: **AHARibo Translatome Total RNAseq kit**.

AHARibo technology was developed to overcome the barriers accompanied by classical methods for translatome analysis such as polysome profiling or affinity purification-based techniques that are characterized by labor-intensive protocols and relatively poor correlations between mRNA and protein levels.

By popular demand, finally available as complete solution from sample prep to library prep. The kit includes:

- i) Module for parallel isolation of active ribosomes and full-length translated RNAs
- ii) Module for rRNA depletion
- iii) Module for Illumina-compatible NGS library preparation with UDIs plate included
- iv) Module for optimal PCR-cycle number determination by qPCR

Highlights

Easy all-in-one protocol

- enables to generate ready to sequence translatome libraries starting from RNA purified from a wide range of cell lines after AHARIBO capture of active ribosomes

Streamlined generation of robust Illumina-compatible libraries

- Within 7.5 hours
- Starting from as little as 50.000 (corresponding to at least 1 ug of total RNA);
- Fragmentation-free protocol that delivers complete transcript representation, including start and end sites;
- Ribosomal RNA depletion module included;
- Reproducible sequencing data
- Libraries contain UMIs and dual indexes for higher accurate sequencing
- Libraries compatible with single-read and paired-end sequencing;

Applications

Low input requirements, an easy work flow without the need for expensive laboratory equipment such as an ultracentrifuge and fractionators combined with a superior RNAseq library preparation system makes the AHARIBO Translatome RNAseq system a versatile tool for many application areas.

The AHARIBO Translatome RNAseq system is suitable for a wide range of cell culture-based applications such as:

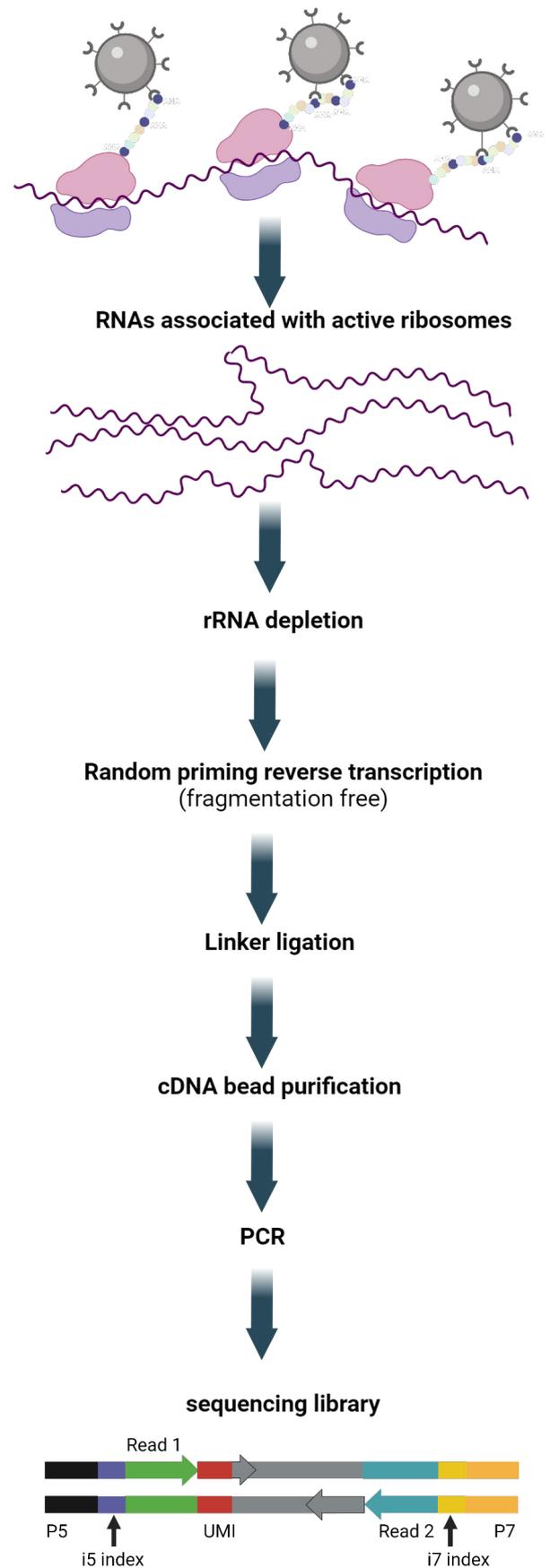
- measuring global translation rates
- studying alternative splice variants,
- translational events in poorly annotated ncRNAs

The widespread applicability of this system making it a versatile tool for scientists in the fields of basic and clinical research, in drug and biomarker discovery as well as in applied research fields such as optimizing and quality control of recombinant protein expression in bioreactors.

The combination of AHARIBO Translatome RNAseq system with AHARIBO modules (#M-AHA003-P #M-AHA003-WB) allows you to explore the translational machinery in its full complexity by permitting the measurement of a variety of proteogenomics parameters such as the translatome, the de-novo proteome and the ribosome composition.

Simple and fast protocol

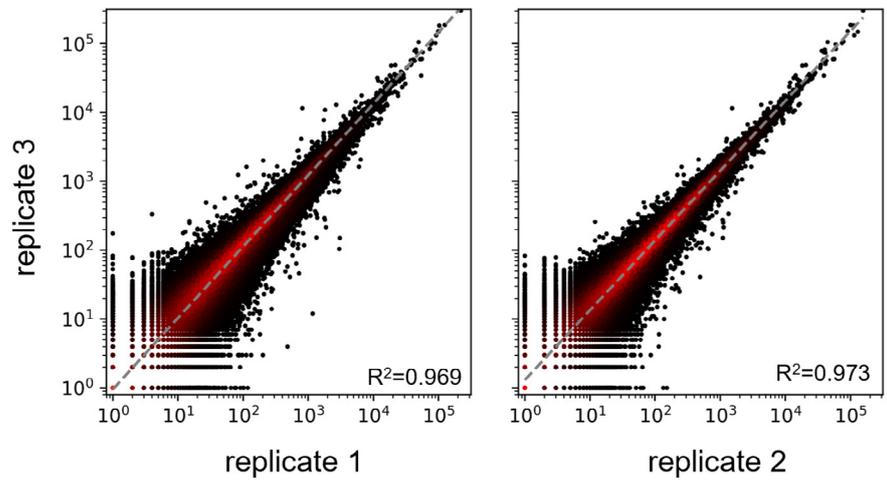
AHARIBO Translatome RNAseq is based on the incubation of cell with l-azidohomoalanine (AHA) to label the nascent peptide chain and with sBlock to stabilize AHA-labelled peptides on ribosomes. Active ribosomes and their interactome are purified by magnetic beads targeting the azido groups present on the nascent chains. RNAs associated with active ribosomes are then purified and Illumina compatible NGS libraries prepared with the library preparation module included in the kit.



Schematic representation of AHARIBO Translatome Total RNAseq workflow.

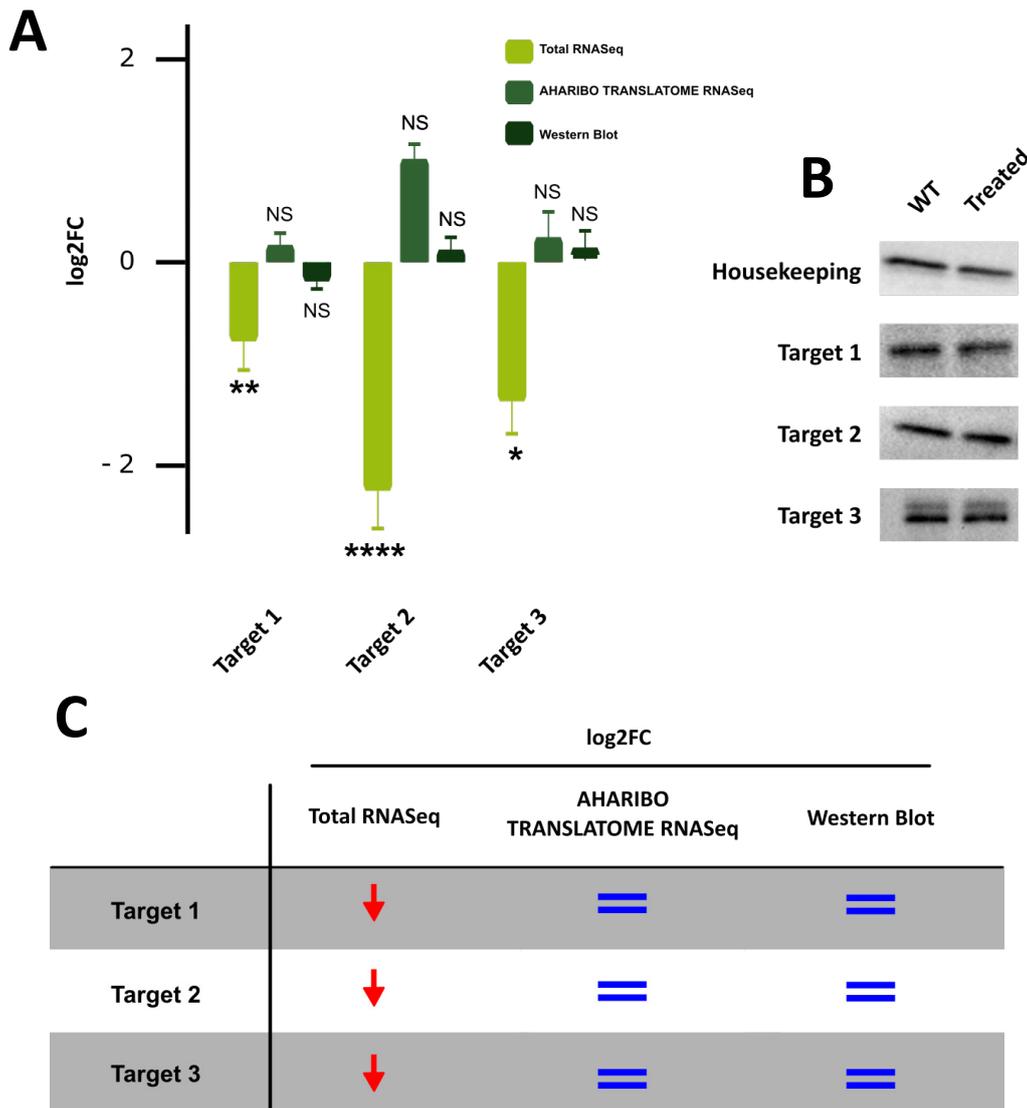
High Reproducibility

AHARIBO Translatome RNAseq exhibits outstanding reproducibility and correlation across replicates.



AHARIBO Translatome RNAseq predicts better protein level

As a case of study, global gene expression was perturbed with a treatment, total RNAseq and AHARIBO Translatome RNAseq were performed to unveil similarity to the actual proteome. As an example, for the 3 targets displayed in the Figure, the comparison between the Fold Change (WT vs Treated) obtained with total RNAseq and AHARIBO Translatome RNAseq are reported (Fig A). In line to what expected, Western Blot analysis (Fig. B) revealed a higher ability of AHARIBO Translatome RNAseq in respect to total RNAseq to predict protein level (Fig. C).





“Our mission is to empower scientists around the world with sophisticated and easy-to-use tools to discover the mechanism of translational control involved in many diseases and encrypted in ribosomes. We strongly believe that giving a much broader research community access to ribosomes, their regulation and diversity will significantly enlarge our knowledge base and allow science to extend into new horizons understanding the role of ribosomes in disease and its cure. The release of AHARIBO Translatome RNAseq system is another important milestone on our way to support the scientific community with better tools on their endeavor improving healthcare. There are many RNA companies, but only IMMAGINA is sharply focused on ribosomes. Our core business is to innovate ribosome-related science. We are growing really fast thanks to the many customers trusting our technology; I’m sure this new tool will make a lot of scientists very happy”

Massimiliano Clamer
founder and president of Immagina Biotech

Ordering information



Product name	Cat. nr	Nr of rxns
AHARIBO_TRANSLATOME_RNAseq	#TR001_12	12
AHARIBO core	#AHA003	6,12,18
AHARIBO Protein Module	#M-AHA003-P	6
AHARIBO Western Blot Module	#M-AHA003-W	6
AHARIBO RNA Module	#M-AHA003-R	6

For Research Use Only.
Not for use in diagnostic procedures.



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