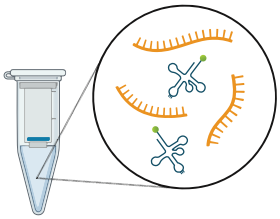
nano-tRNAseq PRO kit

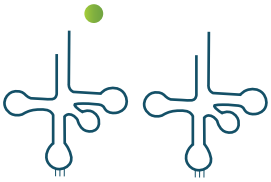
Built for flexible tRNA analysis across all species

Introducing nano-tRNAseq PRO (12 samples - 12 barcodes), our kit enabling full-length sequencing of native tRNA molecules in a gel-free workflow. Starting from total RNA, it allows reliable quantification of tRNA abundance and detection of chemical modifications. Building on our previous version, it now supports multiplexing of up to 12 samples (instead of 6), enabling more flexible sample pooling while reducing sequencing costs and batch-to-batch variability. Compatible with MinION and PromethION nanopore sequencing platforms.

1 Sample prep



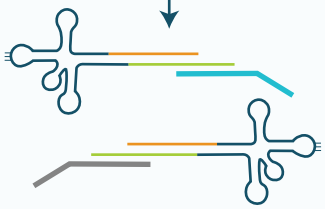
Small RNA enrichment from total RNA



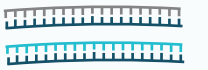
tRNA deacylation

2 Library prep

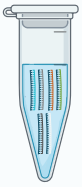
Splint adapters ligation



Barcoded adapters ligation

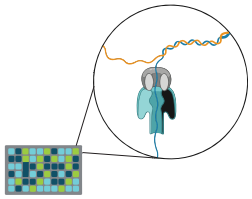


Retrotranscription



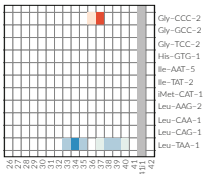
Pooling
*(up to **12 samples**)*

3 Sequencing



Sequencing on Oxford Nanopore

Demultiplexing tool*



Data analysis

*License provided with kit

Highlights

- Full-length tRNA sequencing
- Chemical modification detection
- Up to 12 samples multiplexing
- Reduced sequencing costs

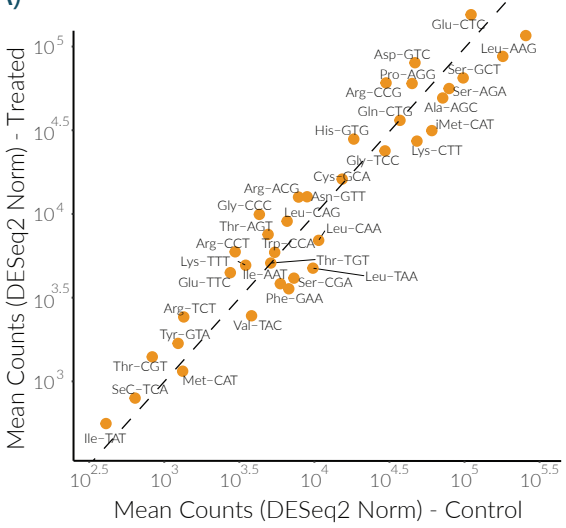
IMMAGINA BioTECHNOLOGY

Imagine what you can discover. Immagina.

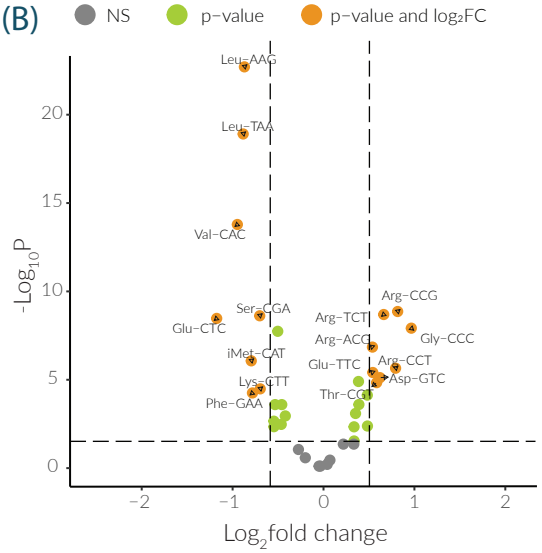
Explore tRNA biology at isoacceptor resolution

Uncovering tRNA expression dynamics

(A)



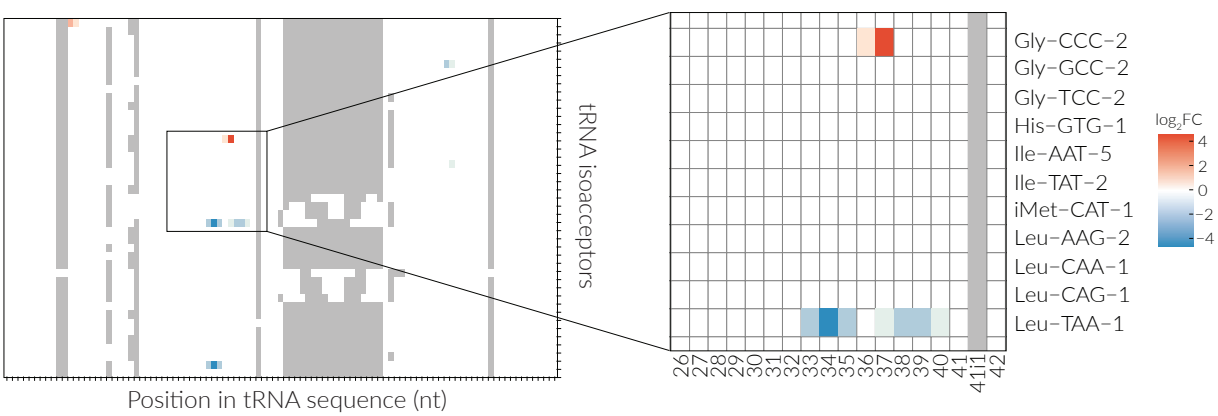
(B)



Nano-tRNAseq kit coupled with Immagina BioIT pipeline enables detection and analysis of tRNA abundance.
(A) Scatter plot showing mean counts of tRNA abundances in treated vs control samples.
(B) Volcano plot highlighting differentially expressed tRNA abundances in treated vs control samples.

Position-resolved modifications change across tRNA isoacceptors

(C)



Chemical modifications are identified based on basecalling errors detected on every position of all tRNA isoacceptors
(C) Heatmap shows significant changes in modifications observed in treatment vs control. Blue indicates possible loss of modification in treated sample; red indicates insertion of modifications in treated sample.

Specifications

Species	All species*	Kit size	12 rxns ***(12 barcodes)***
Total RNA	≥ 3 µg of total RNA	Workflow time	2 days

*with annotated genome

SCAN ME FOR MORE INFO

Immagina is the exclusive license holder to IPs for research use covering key aspects of nano-tRNAseq technology developed by researchers of the Novoa Lab at the Centre for Genomic Regulation,