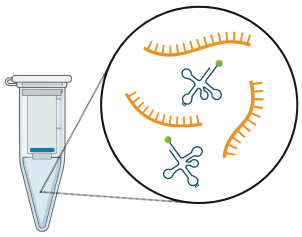
nano-tRNAseq kit

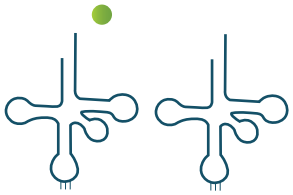
Unlock the secrets of tRNA on your bench

Introducing nano-tRNAseq: the only kit that allows for full-length, sequencing of native tRNA molecules. Simply starting from total RNA, you can now quantify tRNA abundances and detect chemical modifications. With 12 reactions included, we make sure you have everything you need to unlock the secrets of tRNA... for all species*!

1 Sample prep



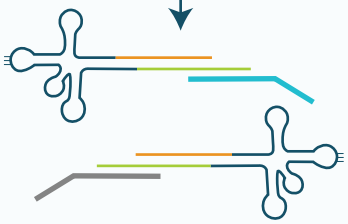
Small RNA isolation from total RNA



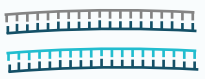
tRNA deacylation

2 Library prep

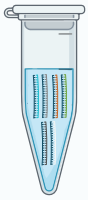
Splint adapters ligation



Barcoded adapters ligation

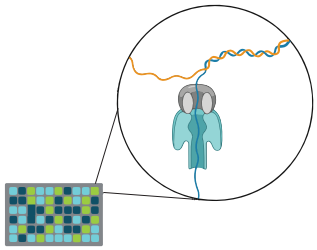


Retrotranscription

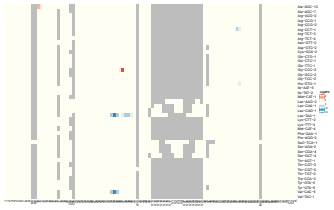


Pooling
(up to 6 samples)

3 Sequencing



Sequencing on Oxford Nanopore platform



Data analysis

Specifications

Species	All species*	**Kit size**	12 reactions
Total RNA input	≥ 10 µg of total RNA	**Workflow time**	2 days

*all species with annotated genome

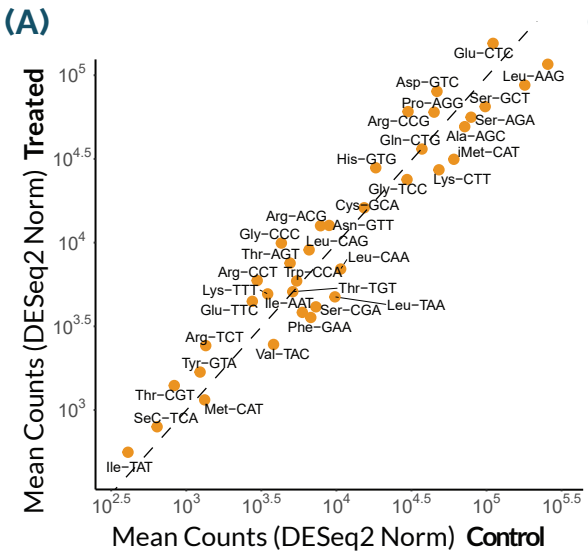
IMMAGINA BioTECHNOLOGY

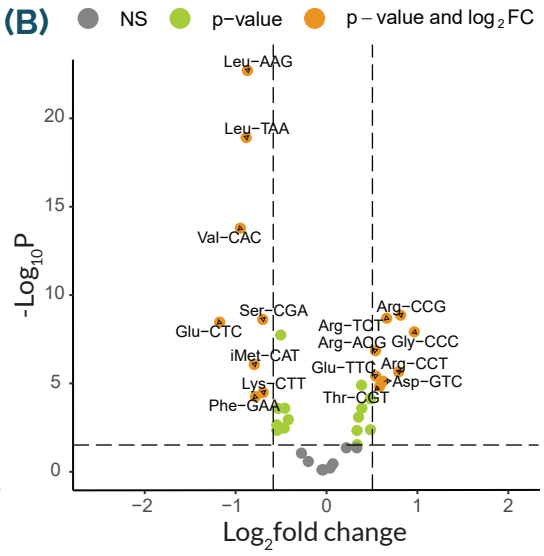
The ribosome company

For more info

Results

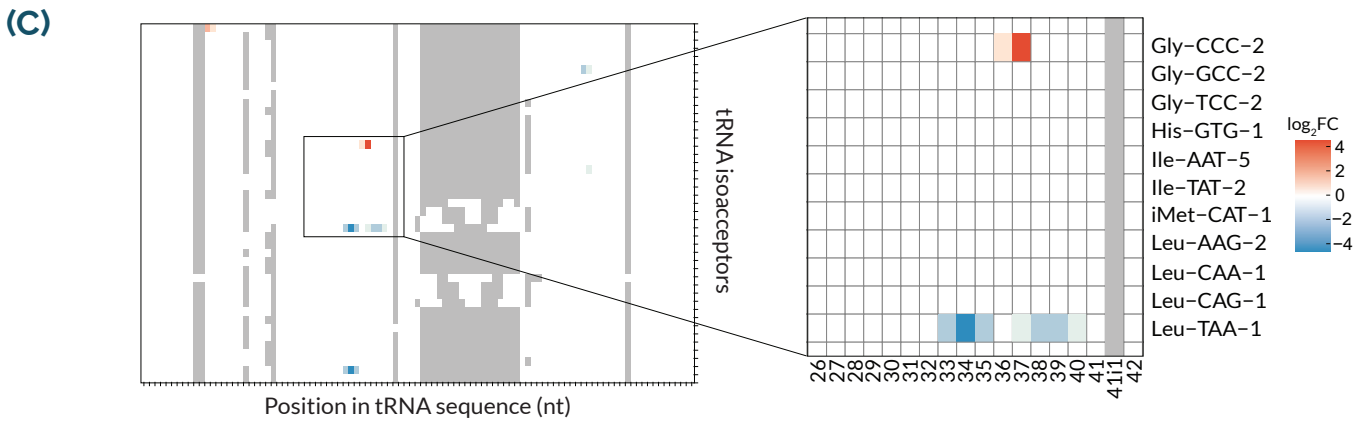
From detection of tRNA abundances to comprehensive analysis





Nano-tRNAseq kit coupled with Immagina BioIT pipeline allows for detection and analysis of tRNA abundances. **(A)** Scatter plot shows mean counts of tRNA abundances in treated vs control samples. **(B)** Volcano plot portrays differentially expressed tRNA abundances in treatment vs control.

Detection of chemical modifications



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.

Highlights

Sequence full-length tRNA

Quantify tRNA abundance

Detect modifications + "circuits"

Gel Free Multiplexing Fast workflow

Imagine what you can discover. Immagina.

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, Barcelona, Spain.