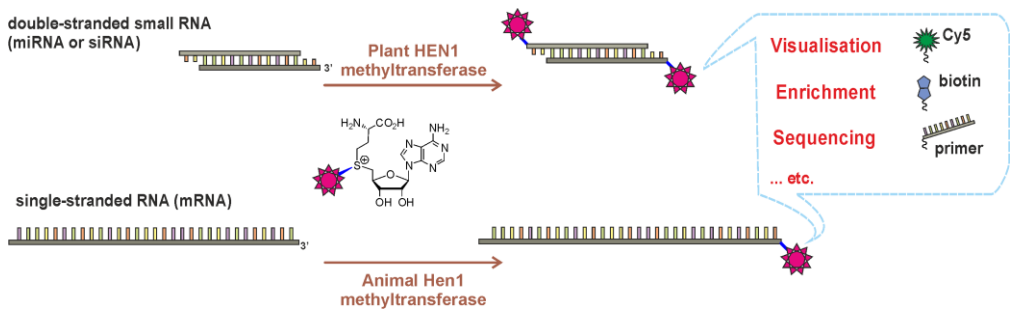


Targeted covalent labeling of small RNAs and ssRNAs

Brief description of a technology

Chemo-enzymatic covalent deposition of functional and reporter groups at 3'-terminal nucleotides in small RNAs such as miRNAs, siRNAs or long ssRNAs using HEN1 RNA 2'-O-methyltransferases from plants or animals, respectively. Enables a highly selective analysis of transcriptomes and discovery of new microRNA species in animal and human samples.



Purpose

Targeted covalent labeling of small RNAs or ssRNAs for imaging, enrichment and sequence analysis.

Fields of application

Biomedicine, biomarkers and diagnostics, miRNA profiling, transcriptome profiling, single-molecule genomics, biomaterials.

Technology readiness

Technology validated in lab.

Intellectual property

Patent applications: EP3271478 (A1) and US20180251814 (A1).

Applicant: Vilnius University.

Relevant publications

Plotnikova et al. (2014) J. Am. Chem. Soc., 136: 13550.

Osipenko et al. (2017) Angew. Chem. Int. Ed., 56: 6507.

Mickutė et al. (2018) Nucleic Acids Res., 46: e104.

Tomkuvienė et al. (2019) Curr. Opin. Biotechnol., 55: 114.

Contacts

- Prof. Dr. Saulius Klimašauskas
Institute of Biotechnology, Life Sciences Center, Vilnius University
E-mail: saulius.klimasauskas@bti.vu.lt
Phone: +370 5 223 4350
- Dr. Ramūnas Grigonis
Innovation Office, Department for Research and Innovation, Vilnius University
E-mail: ramunas.grigonis@cr.vu.lt
Phone: +370 5 268 7006