

The background is white with a repeating pattern of dark blue, stylized, hatched shapes that resemble the letter 'R'. These shapes are scattered across the page, some overlapping. A large, dark blue rectangular box is positioned in the lower right quadrant, containing white text.

microRNA

**Brilliant and complex solution
for short RNA biomarkers**

ENG

Welcome to the world of short RNA molecules.

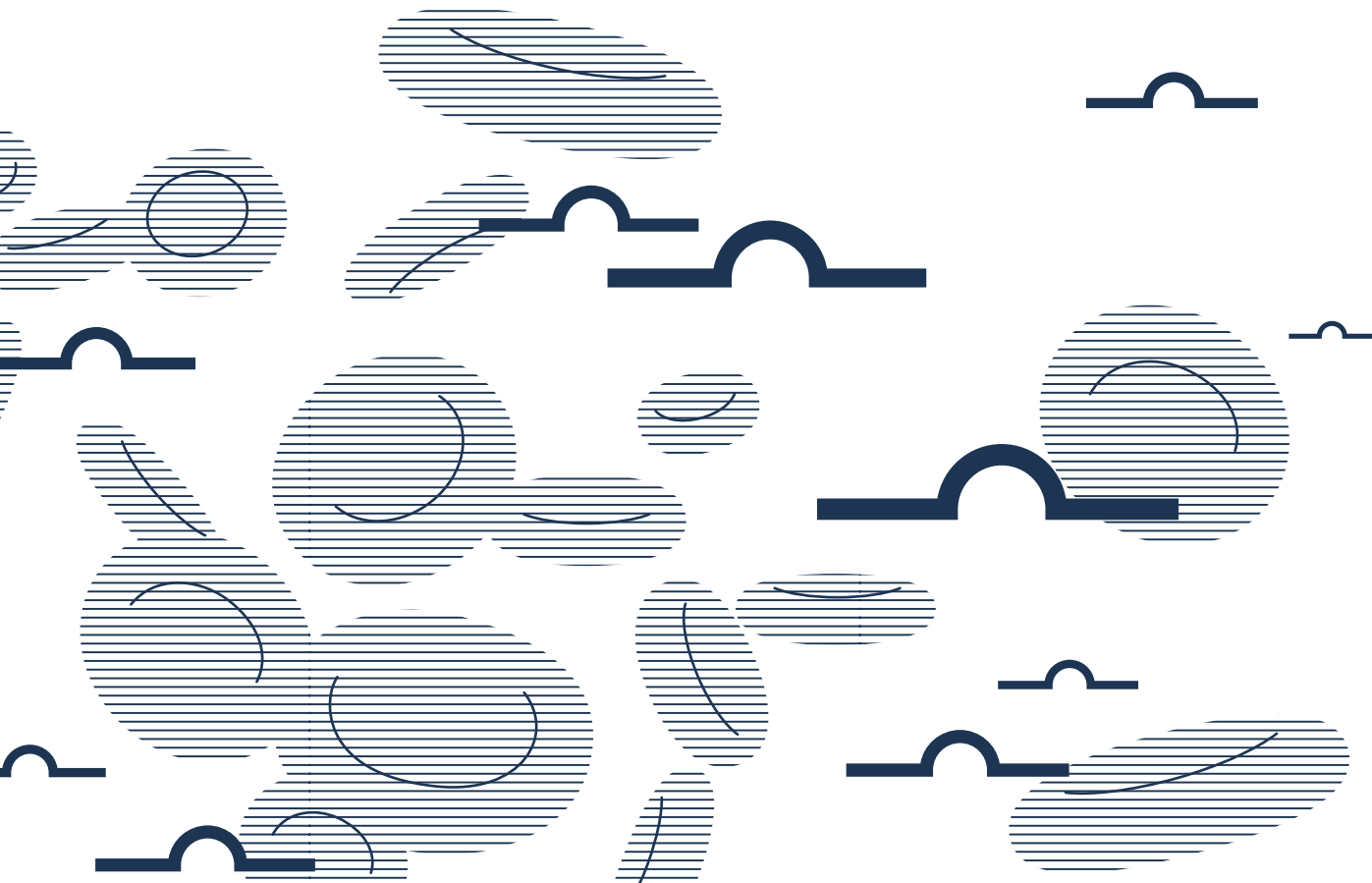
The incredible regulatory power of microRNAs (miRNAs) and other short non-coding RNA sequences (sncRNAs, piRNAs) was discovered very recently. Research into these highly abundant RNAs revealed their crucial involvement in orchestration of all molecular signalling pathways (p53, Wnt, FAS and others).

The ability of miRNAs to immediately respond to pathological processes, like tumorigenesis or inflammation, together with their stability in biofluids predetermine them to be specific and sensitive biomarkers for a wide range of diseases. Their proper expression profiling was a challenge for a long time, mostly due to their short length (20–25 nt).

Until now...

BioVendor brings a complete solution with its own excellent, patented and verified methods.

If you are not sure which products would best suit your experiments, please contact our product manager at gresakova@biovendor.com or call +420 734 338 783.



Isolation, isolation, isolation...

Each and every miRNA or other sncRNA quantification assay starts with an isolation step. The natural characteristics of these molecules make them extremely degradable, easily contaminated, and hard to extract. To successfully overcome these problems, BioVendor offers verified wet lab tested and high-quality isolation kits for the wide variety of sample types.



Select collection and isolation tools:

Collection tubes

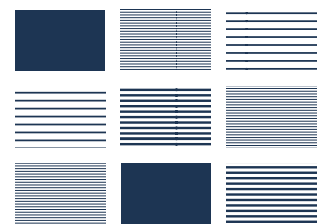
- liquid biopsy, cell culture, tissues

Isolation kit sample types

- serum/plasma, urine, exosomes/cells, tissue, FFPE
- 50 samples

Screening panels: Searching for the right ones?

There are over 2 000 miRNA molecules with diverse functions and roles. To focus on those closely related to your project can be very challenging. BioVendor's screening panels are closely focused on crucial and well described miRNAs. All assays include internal and synthetic controls and provide a complete and precise solution for miRNA level measurements.



Choose the best option for your screening:

CANCER panel

- targeting over 380 miRNAs connected with major pathological processes
- 96 or 384 well format
- 6, 12 or 24 sample formats

BIOFLUID panel

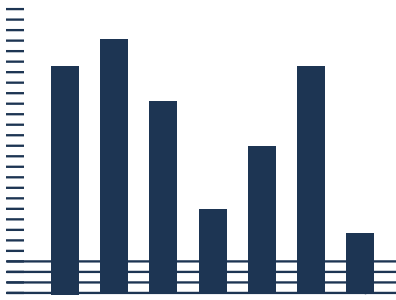
- targeting over 190 miRNAs stable and well detectable in biofluids (blood, serum, urine, etc.)
- 96 or 384 well format
- 6, 12 or 24 sample formats

osteomiR panel

- targeting 18 bone quality related miRNAs with own RNA isolation kit, quantification assay and evaluation algorithm
- 96 or 384 well format
- 48 samples

thrombomiR panel

- targeting 10 blood platelet related miRNAs with own RNA isolation kit, quantification assay and evaluation algorithm
- 96 or 384 well format
- 48 samples



Quantification assays: highly specific and customized tools

Once you narrow down your list of the important miRNAs/piRNAs/sncRNAs to a manageable number, it is time to focus closely on their expression. BioVendor and its R&D team of specialists developed quantification assays to measure eukaryotic as well as viral short non-coding molecules.

Our team of experts has established two In-house patented platforms for this purpose:

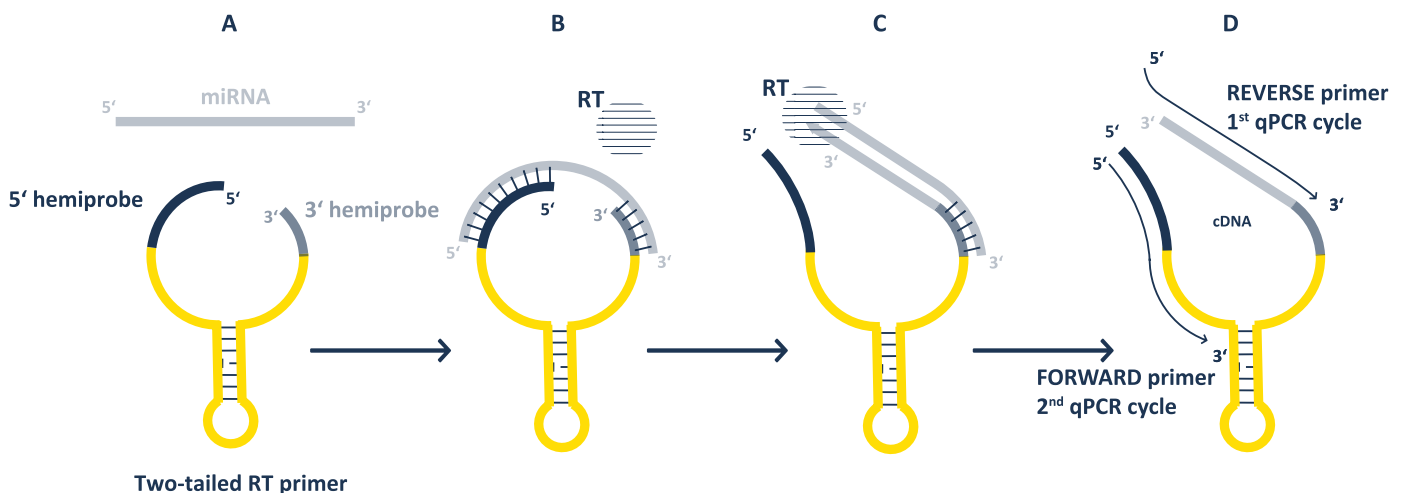
TT-PCR assay

- Two-Tailed qPCR assay
- RT-qPCR based quantification method
- specific hemiprobic primers for reverse transcription + specific primers for qPCR = superior specificity
- the most specific and sensitive assay on the market
- small sample volume needed
- 50 RT + 150 qPCR reactions format
- multiplexing up to 10 sncRNAs in RT step
- over 50 assays available immediately
- customized production 4-8 weeks

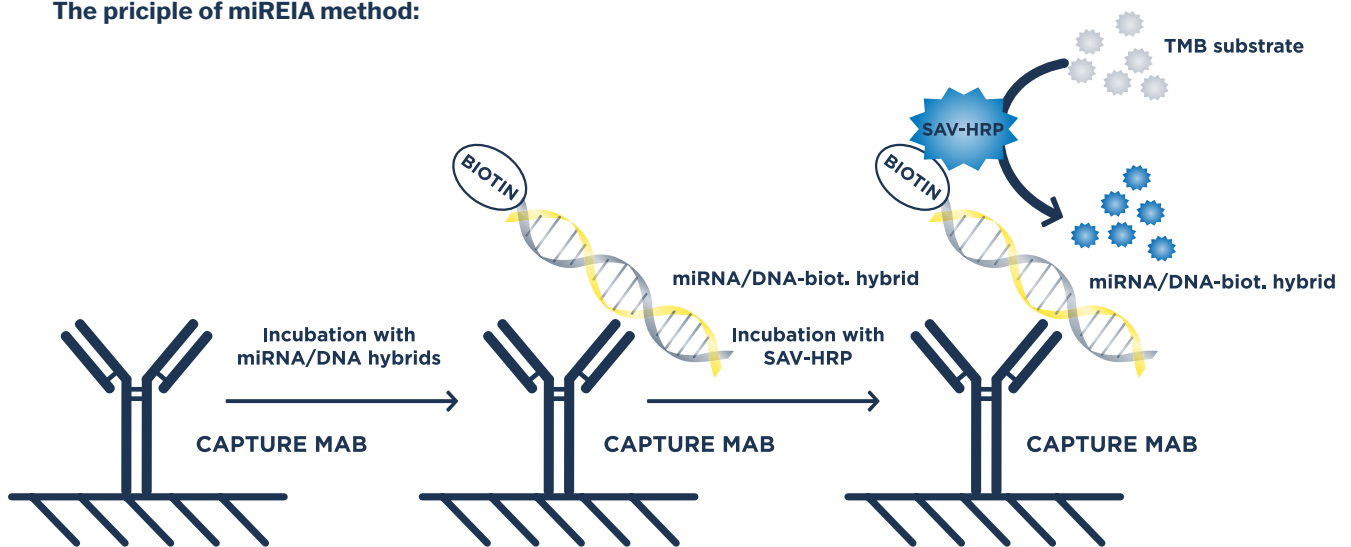
miREIA assay

- microRNA Enzyme ImmunoAssay
- immunoassay based quantification method
- conjugation with biotin-labelled ssDNA probe, which is specific to targeted sncRNA molecule, ssDNA+sncRNA hybrid molecule is recognised by specific plate-captured antibody, streptavidin-HRP detection system
- no amplification, ELISA-like protocol, only immunoassays instruments needed
- 96 well format, calibration curve included
- multiplexing up to 2 sncRNAs
- over 50 assays available immediately
- customized production 4-8 weeks

The principle of TT-PCR method:



The principle of miREIA method:



Another verified solution:

BioVendor also closely cooperates with the best companies around the world and therefore we can also offer third tool for specific miRNA expression measurements:

ID3EAL PCR

- in silico designed using proprietary 30-parameter thermodynamics-based algorithms
- validated using both synthetic miRNAs and RNA from biological samples
- stem-loop RT primer
- 20/60 RT + 100/500 qPCR format
- majority of identified human miRNAs available



miRNA diagnostic panels: Go further!

The potential of miRNA goes beyond molecular mechanism orchestration. The most promising role is in diagnostics. Expression levels of miRNA respond to any pathological changes, such as tumorigenesis or inflammation, immediately. That makes them extremely sensitive and early diagnostic biomarkers for a wide range of diseases. miRNAs are also very stable in biofluids which makes their quantification very specific, early and preferably presymptomatic.

Choose the best option for your diagnostic process:

HB miRDx™ BKV Kit

- CE IVD licenced
- crucial differentiation between latent BKV infection (which occurs in 80% of the population) and active stage caused by kidney transplantation
- helps to properly adjust the medication
- differentiates between graft rejection and BKV infection (which both lead to increased creatine)
- DNA tests only detect the presence of the virus, miRNA screens for its active stage
- internal control included
- 24 patients

GASTROClear™ DX

- CE IVD marked and approved for IVD use by Singapore's Health Sciences Authority
- analyses the expression of human miRNAs biomarkers associated with gastric cancer
- miRNAs are specifically produced by stomach tumours and secreted into the bloodstream
- 3-4x better detection rate compared to traditional tumour markers
- 11 miRNAs
- internal control included
- 39 patients

BioVendor's complete miRNA solution offers:



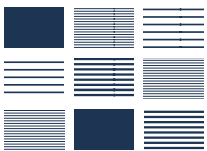
Collection tubes:

- Liquid biopsy samples
- Tissue samples
- Cell culture samples



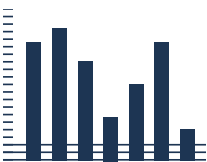
Isolation kits:

- Biofluid kit
- Tissue kit
- Cell/Exosome kit
- FFPE kit



Screening panels:

- CANCER panel
- BIOFLUID panel
- osteomiR
- thrombomiR



Quantification assays:

- TT-PCR
- miREIA
- ID3EAL PCR



Diagnostic kits:

- HB miRDx™ BKV Kit
- GASTROClear™ DX

BATS:

- Isolation
- Screening
- Quantification
- Troubleshooting
- Project design



Our miRNA BATS at your service.

BioVendor's Analytical and Testing Service (BATS) offers specialised and customized service. It is the best option if you are not feeling confident about molecular methodology or do not have the necessary equipment or human power to run miRNA assays.

Our scientific experts can provide you with a guidance and supervision throughout the whole experimental design and sample collection process and do the wet lab work for you. You just provide us with your samples and we do all the isolation, quantification, normalisation and data processing.

We can help you whether you need each of these functions or only one or two. BATS is provided for all our miRNA/sncRNA product portfolio.



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