

TAmiRNA

Our know-how for your samples

Customer-tailored microRNA services



The right tool for the right job

TAmiRNA offers a broad range of **high quality RNA** services performed by experts according to GLP standards

- RNA isolation
- Next Generation Sequencing
- RT-qPCR

„We are committed to help our clients to rapidly move from an idea to results, to facilitate the publication and clinical application of microRNA biomarkers!“

Matthias Hackl, CEO TAmiRNA

We established standardized analytical procedures for the following technologies and biological specimens:

	cells	tissue	conditioned media	liquid biopsy *
Required Input	> 10 ³ cells	> 5 mg	50–200 µL	50–200 µL
Extracellular vesicles			✓	✓
RNA Extraction **	✓	✓	✓	✓
Real-Time Quantitative PCR	✓	✓	✓	✓
Next Generation Sequencing (NGS)	✓	✓	✓	✓

* serum, plasma & urine

** TAmiRNA offers RNA isolation of biofluids (serum/plasma), cells and tissue, followed by quality control of total RNA using bioanalyzer chips.

Additional options

Extracellular Vesicles (EVs)

purification and characterization of EVs according to official recommendations by the International Society for Extracellular Vesicles (ISEV)

Liquid biopsy

pilot studies for a variety of biofluids such as cerebral spine fluid (CSF), saliva, and tears

IVD test

proprietary normalization strategies and machine learning are applied to discover and validate multivariate biomarker signatures with robust diagnostic performance

RNA service project workflow

**1. Discussion
of study design**



**2. Project proposal
and quote**



3. Project start



**4. Sample
submission**



5. RNA isolation



**6. RNA quality
control**



**7. miRNA expression
analysis**



**8. Data report
and discussion**



**9. Project
finalization**

At a glance: TAmiRNA's RNA services

- **„One-for-All“**

a single partner for the whole workflow from study design to project finalization, consultation and next steps

- **Flexibility**

adjustments of tasks and protocols according to your individual project needs and budget

- **Quality**

SOPs and comprehensive QC at every step of the project

- **Speed**

accelerate your research – rapid turn-around times to fit your project timelines

- **Results**

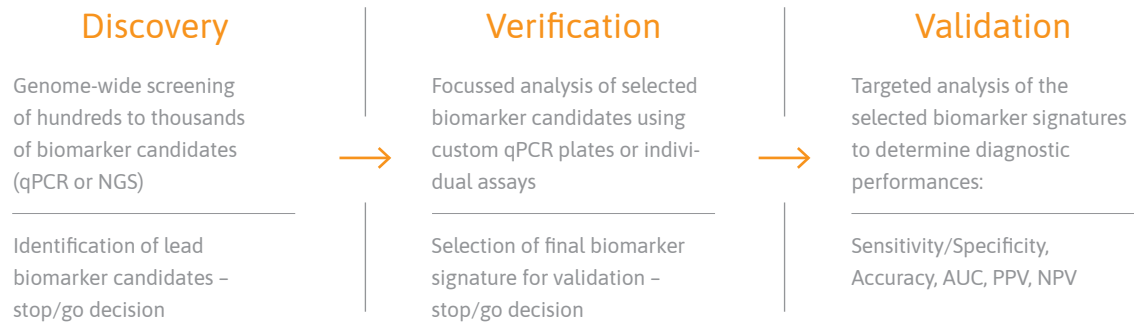
ready-to-use data for presentations and publications as well as for additional analyses. Post project consultations to discuss next steps are included.

- **Experience**

benefit from our know-how of >10 years of RNA research and IVD-test development

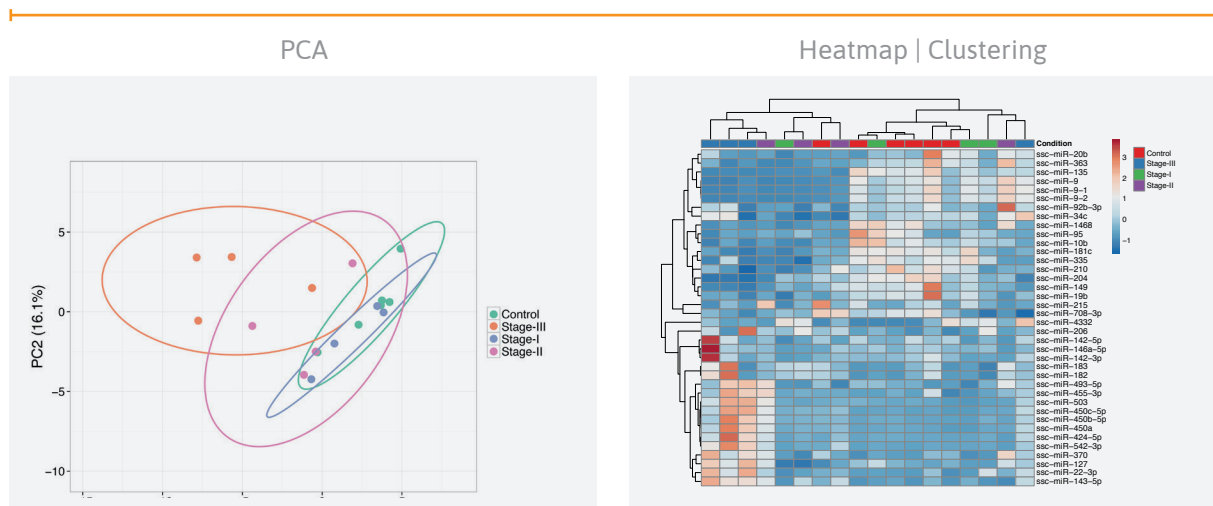
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From discovery to validation

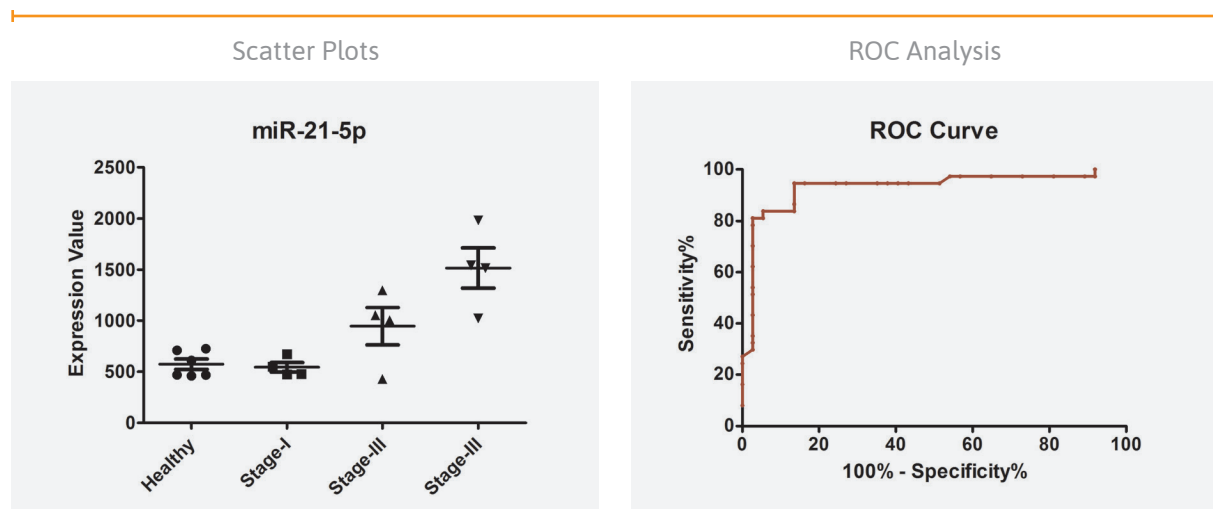


Exemplary results

Step 1 | Exploratory data analysis



Step 2 | Differential expression analysis



Successfully published projects

Serum microRNAs are indicative of skeletal fractures in postmenopausal women with and without type-2 diabetes and influence osteogenic and adipogenic differentiation of adipose-tissue derived mesenchymal stem cells in vitro. Heilmeier U, et al. 2016 J Bone Miner Res. 2173-2192.
PMID: 27345526

Original research article on discovery of novel microRNA biomarkers for the management of postmenopausal and diabetic osteoporosis.

Circulating microRNA signatures in patients with idiopathic and postmenopausal osteoporosis and fragility fractures. Kocijan R, et al. 2016 J Clin Endocrinol Metab. 2016-2365.
PubMed PMID: 27552543

Original research article on microRNAs and tissue homeostasis.

Vesicular Galectin-3 levels decrease with donor age and contribute to the reduced osteo-inductive potential of human plasma derived extracellular vesicles. Weilner S, et al. 2016 Aging, Jan 9.
PMID: 26752347

Original research article investigating the donor-age dependent impact of extracellular vesicles on osteogenesis in vitro.

Urine is a novel source of autologous mesenchymal stem cells for patients with epidermolysis bullosa. Schosserer M, et al. 2015 BMC Res Notes, 10;8(1):767.
PMID: 26654529

Original research article on urine derived mesenchymal stem cells and their capability to differentiate into osteoblasts, adipocytes and keratinocytes.

Circulating microRNAs as novel biomarkers for bone diseases – Complex signatures for multifactorial diseases? Hackl M, et al. 2015 Mol Cell Endocrinol. 23. pii. S0303-7207(15)30116-7.
PMID: 26525415

Review on microRNAs and their usability as biomarkers for bone diseases

Differentially circulating miRNAs after recent osteoporotic fractures can influence osteogenic differentiation. Weilner S, et al. 2015 Bone. 28;79:43-51.
PMID: 26026730

Original research article which reports the identification of circulating microRNAs that are changed in the course of recent osteoporotic fractures in postmenopausal women, and which show osteogenic activity in vitro.

Molecular and cellular effects of in vitro shockwave treatment on lymphatic endothelial cells. Rohringer S, et al. 2014 PLoS One. 11;9(12).
PMID: 25502694.

Original research article on investigating in vitro shockwave treatment (IVSWT) effects on lymphatic endothelial cell (LEC) behavior and lymphangiogenesis.

MicroRNAs differentially present in the plasma of HIV elite controllers reduce HIV infection in vitro. Reynoso R, et al. 2014 Scientific Reports. 1;4:5915.
PMID: 25081906.

Original research article on circulating microRNAs in chronic HIV-infected patients and elite control patients, and their potential use as therapeutic targets.

Reduction of Premature Aging Markers After Gastric Bypass Surgery in Morbidly Obese Patients. Hohensinner PJ, et al. Obes Surg. 2018 Apr 25.
PMID: 29693219

Original research article determining if bariatric surgery and the resulting weight loss could reverse the premature aging phenotype.

Bone-related circulating microRNAs miR-29b-3p, miR-550a-3p and miR-324-3p and their Association to Bone Microstructure and Histomorphometry. Feichtinger X, et al. Sci Rep. 2018 Mar 20;8(1):4867.
PMID: 29559644

Original research article on the assessment of bone quality and the prediction of fracture risk in idiopathic osteoporosis (IOP) patients using bone microRNAs.

Altered MicroRNA Profile in Osteoporosis Caused by Impaired WNT Signaling. Mäkitie RE, et al. J Clin Endocrinol Metab. 2018 May 1.
PMID: 29506076

This study sought to explore the circulating microRNA (miRNA) pattern in patients with impaired WNT signaling.

Clopidogrel in critically ill patients. Schörghofer C, et al. Clin Pharmacol Ther. 2017 Sep 15.
PMID: 28913918

This trial investigated the effects and the drug concentrations of the cytochrome P450 (CYP450) activated prodrug clopidogrel and the half-life of the similarly metabolized pantoprazole in critically ill patients.

