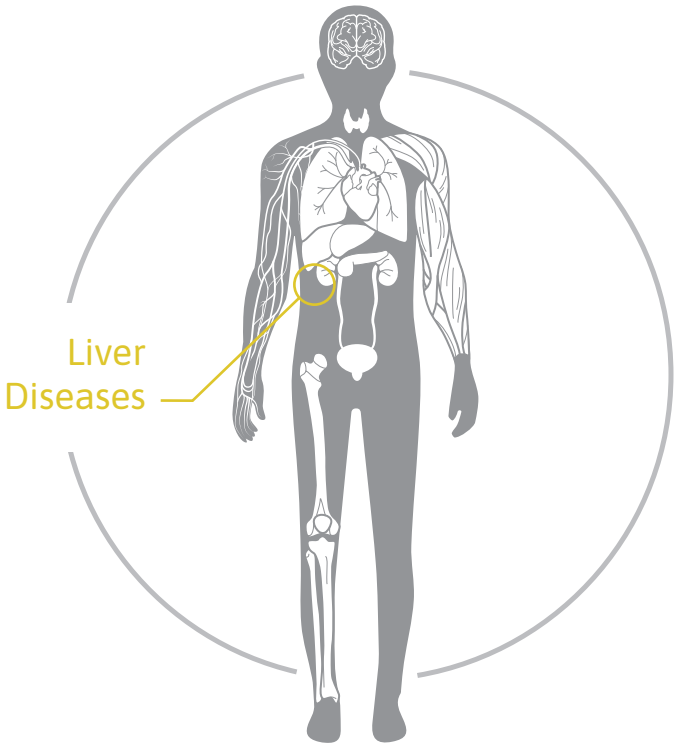



# hepatomiR®

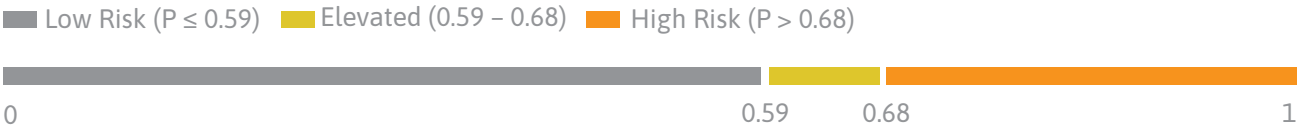
## Unlocking Liver Function Insights

CE-marked microRNA biomarkers for liver function — from routine clinical diagnosis to the research bench.

TAmiRNA
stability for life.

# hepatomiR® for Preoperative Risk Assessment

**hepatomiR® is a CE-IVD test that measures three circulating microRNAs in a single plasma sample to calculate the P-Score — a quantitative indicator of liver function.** Used alongside liver volumetry, the P-Score supports preoperative risk assessment for post-hepatectomy liver failure (PHLF), addressing the one preoperative risk factor for which no gold-standard test previously existed: liver function.




| 0.84 | >77% | >90% | 329 |
|---|---|---|---|
| AUC — PHLF grade B+C | Positive predictive value | Negative predictive value | Patients in validation cohort |

**Low risk — operate without delay**
Preserved liver function; safe to proceed to surgery.

**Intermediate risk — optimize first**
Candidate for preoperative intervention before resection

**High risk — consider alternatives**
May not benefit from hepatectomy; explore alternatives

**Monitor recovery**
Track liver function during and after optimization

## Validated Prognostic Performance




Positive predictive value: 77%, negative predictive value: >90%, cohort: n = 329 liver resection patients. Source: Kern et al., 2025 Ann. Surg. Oncol.

## Peer-Reviewed Evidence

Kern et al. 2025: MicroRNA based Prediction of Posthepatectomy Liver Failure and Mortality Outperforms Established Markers
https://doi.org/10.1245/s10434-025-17528-x

Starlinger et al. 2019: Predicting Post-operative Liver Dysfunction Based on Blood-Derived MicroRNA Signatures
https://doi.org/10.1002/hep.30572

# hepatomiR® for Clinical Research & Translational Science

**The hepatomiR® RUO panel measures three circulating microRNAs central to liver biology in a single plasma sample.** This makes it a versatile tool for biomarker research — from early drug development through translational animal studies.

## The hepatomiR® microRNA Panel

### miR-122-5p

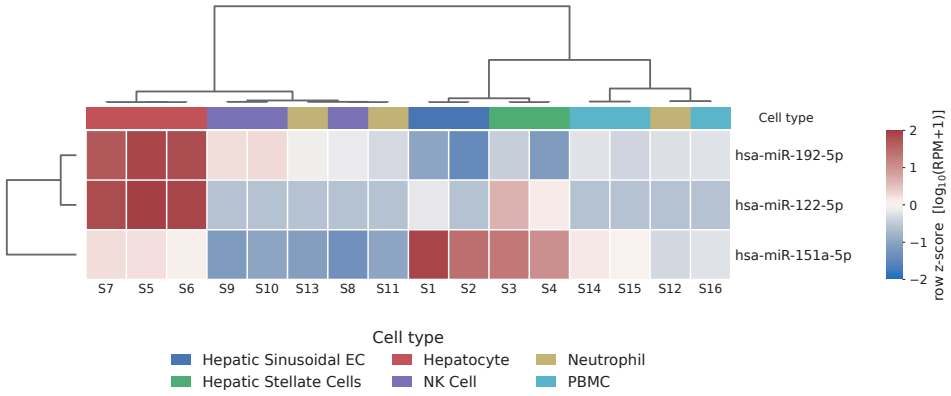
The most abundant liver-specific microRNA, accounting for ~70% of total hepatic miRNA content. Governs lipid metabolism and hepatocyte differentiation; circulating levels rise sharply upon hepatocyte injury.

### miR-192-5p

Involved in hepatic glucose metabolism, inflammation, and fibrosis. Circulating levels increase after acute and chronic liver injury. Improves diagnostic accuracy and robustness in combination with miR-122.

### miR-151a-5p

Completes the hepatomiR® signature, adding information about the inflammatory status of the liver, specifically hepatic sinusoidal endothelial cells and stellate cells.




### Cellular origin of hepatomiRs in human plasma:

miR-122-5p and miR-192-5p are predominately transcribed in hepatocytes, contributing to important functions of the liver. miR-151a is predominately transcribed in hepatic stellate and sinusoidal endothelium, regulating inflammatory responses.

## Research Use Cases Beyond Hepatectomy

1

**Interventional Clinical Trials: Biomarker** (miR-122-5p together with the P-Score) for diagnosis and monitoring of hepatotoxicity and liver injury (drug safety) and for assessing treatment response on liver function (drug efficacy).

2

**Observational Clinical Trials:** For researchers interested in liver microRNA biomarkers or chronic or acute liver disease – hepatomiR® provides a novel and innovative biomarker endpoint for diagnosis, prognosis or disease monitoring.

3

**Translational Research:** Liver biomarkers in research models (mouse, rat, dog, NHP, etc.) designed to be fit for translation to human studies.

# hepatomiR® Kit
# Sample & Assay Specifications



## hepatomiR® Kit

IVD — Self-Run

What's included (48 Samples)

- Extraction
- Chemistry
- qPCR Plates
- Software App

## hepatomiR® Service

research use only

Full-Service

How it works

- Ship Samples to Vienna
- End-to-End: Plasma to Result

## Sample Requirements

**200 µL Plasma**
Platelet-poor plasma

**Frozen or Fresh**
Deep-frozen (≤ -70°C) or fresh, centrifuged within 8 hours of collection.

## Throughput & Turnaround

**96- / 384-Well**
Duplicate analysis in primer-coated plates — 6 or 24 samples per plate, respectively.

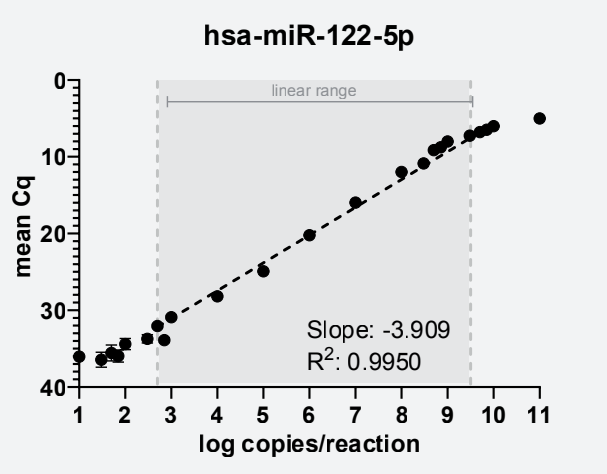
**< 5 Minutes**
Automated data analysis via the hepatomiR® software application.

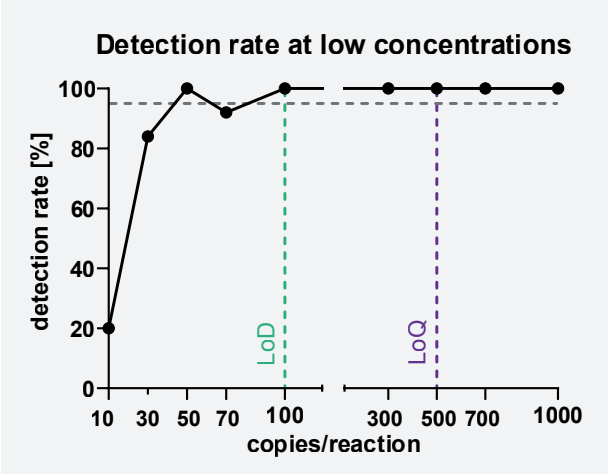
## Analytical Performance

hepatomiR® has been validated for its analytical performance including precision, linearity, detection limits, between lab reproducibility and stability according to IVDR 2017/746 requirements

| Parameter | Specification |
|---|---|
| Precision (inter-assay CV%) | P<0.3: CV 11.7% \| P>0.6: CV 6.3% |
| Robustness (between lab CV%) | 100% concordance* |
| Linear range | 6x LOG10 |
| Limit of detection (LoD) | 100 copies/reaction |
| Limit of quantification (LoQ) | 500 copies/reaction |

* Comparing 4 plasma samples with P-Scores from <0.1 to >0.7 across 6 different labs







## Bring hepatomiR® to Your Clinical Lab

Order the CE-IVD kit directly, or let us analyze your samples with our analytical services — we support onboarding, training and interpretation.

Contact us: contact@tamirna.com

# hepatomiR®

microRNA Biomarkers of Liver Function and Disease

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stability for life.

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