Cardior

At the pulse of heart diseases

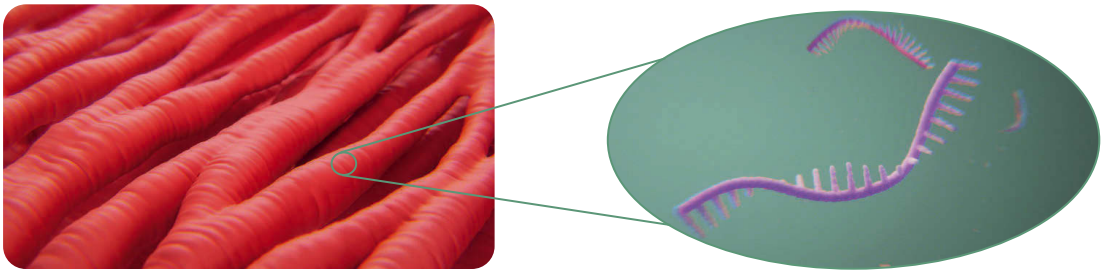
Cardior Pharmaceuticals is a leading clinical-stage biopharmaceutical company pioneering the discovery and development of RNA-based therapeutics designed to prevent, repair and reverse diseases of the heart. The company's therapeutic approach uses distinctive non-coding RNAs as an innovative platform for addressing the root causes of cardiac dysfunction. Cardior's goal is to bring transformative therapeutics and diagnostics to patients and thereby make a lasting impact on the treatment of cardiac diseases worldwide.

Key facts

- Founded 2016 and located in Hanover, Germany
- Adressing cardiac diseases with ncRNAs
- Broad proprietary platform
- Series A: € 15M
  Series B: € 64M
- Lead candidate with blockbuster potential
- Experienced management team

Technology

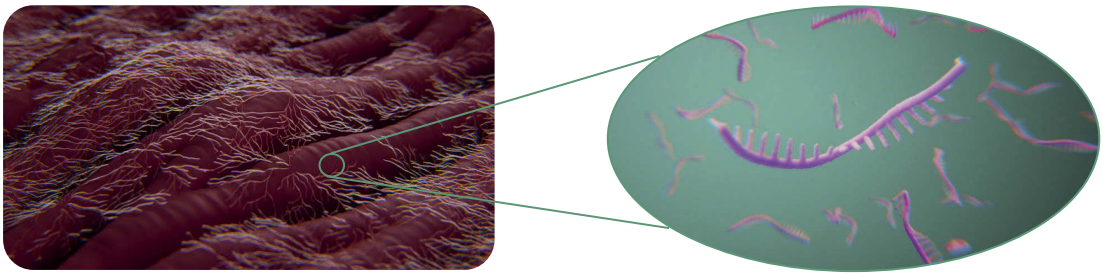
Cardior‘s strong foundation for growth and innovation is based on non-coding RNAs that orchestrate fundamental cellular cardiac processes. A non-coding RNA – miR-132 – is found to be responsible for the ability of the heart muscle cells, cardiomyocytes, to contract and relax efficiently.



Healthy cardiac tissue

Normal miR-132 levels

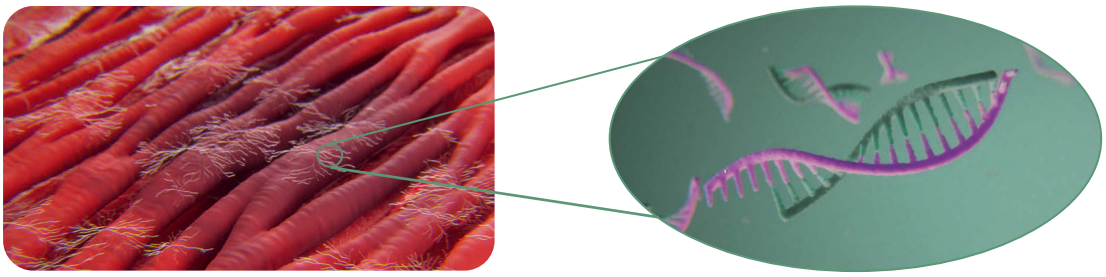
In the situation of cardiac stress miR-132 levels are overexpressed leading to a significant increase of this non-coding RNA in the heart muscle cells. This elevation triggers disease related signaling cascades provoking an adverse remodeling process characterised by hypertrophy, fibrosis and impaired vascularisation of the heart tissue. These factors contribute to contractile disfunction and the progression of heart failure in patients.



Diseased cardiac tissue

Excessive miR-132 levels

The treatment approach is based upon targeting miR-132 with Cardior’s innovative therapeutic – the antisense oligonucleotide CDR132L. CDR132L selectively blocks aberrant miRNA-132 levels restoring derailed cellular signaling thereby reversing the detrimental remodeling process and improving heart function. CDR132L’s transformative potential can offer new opportunities for the treatment of various heart failure conditions.



Cardiac tissue normalizaton

Inhibition of miR-132 by CDR132L

Key publications

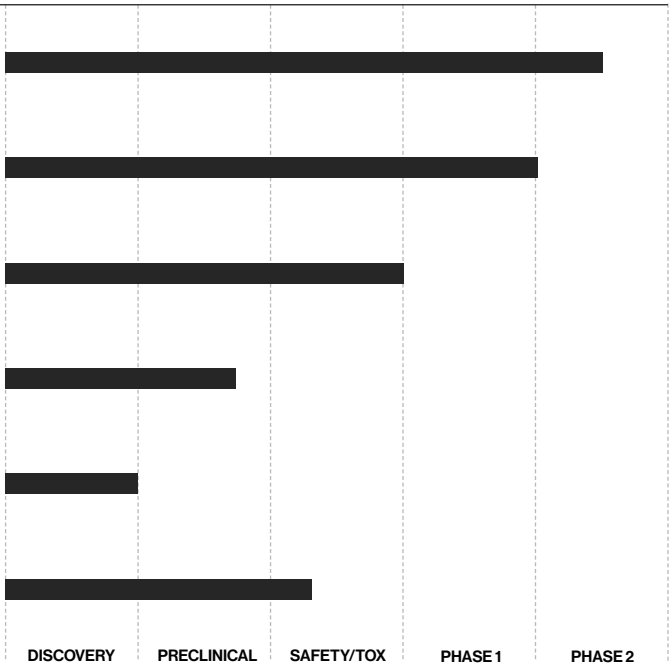
Efficacy and safety of CDR132L in patients with reduced left ventricular ejection fraction after myocardial infarction: Rationale and design of the HF-REVERT trial, Bauersachs J. et al., European Heart Failure Journal, 2024 ↗

Novel antisense therapy targeting microRNA-132 in patients with heart failure: results of a first-in-human Phase 1b randomized, double-blind, placebo-controlled study, Täubel J. et al., European Heart Journal, 2021 ↗

CDR132L improves systolic and diastolic function in a large animal model of chronic heart failure, Batkai S. et al., European Heart Journal, 2021 ↗

Pipeline

Program	Indication	MoA	Development Stage
CDR132L	Post-Myocardial Infarction (MI) Heart Failure	Interaction with miR-132	
CDR132L	Heart Failure with Preserved Ejection Fraction	Interaction with miR-132	
CDR132L	Dilated Cardiomyopathy	Interaction with miR-132	
CDR348T	Hypertrophic Cardiomyopathy	Modulation of ncRNAs	
CDR641L	Hypertrophic Cardiomyopathy	Interaction with ncRNA	
Undisclosed	Diverse Indications	Interaction with ncRNAs	



Our lead candidate CDR132L is an inhibitor directed against miRNA132, designed to halt and reverse the development of detrimental cardiac remodeling. As a therapeutic candidate, CDR132L has several distinguishing features:

- **CDR132L** selectively blocks aberrant miRNA132 levels contributing to improved cardiac systolic and diastolic function in patients
- **CDR132L** has the potential to prolong the patient's life span as well as improve quality of life
- **CDR132L** is a highly stable watersoluble oligonucleotide formulated for parenteral or subcutaneous application

The advantages of the Cardior platform

- Based on world-leading expertise in the therapeutic modulation of RNAs through synthetic oligonucleotides
- Highly stable and effective RNA therapies resulting from a proprietary discovery engine
- Pre-clinical proof-of-concept demonstrating the potential of the approach and first clinical evaluation completed
- Deep understanding of the complex interplay of multiple disease-causing mechanisms and the role of ncRNAs
- Effective target modulation and targeted delivery into the heart achieved
- Successful scale up of a fast and cost-efficient GMP grade manufacturing

Leadership Team

Claudia Ulbrich, MD
CEO & Co-Founder

Prof. Thomas Thum, MD
CSO / CMO & Founder

Axel-Sven Malkomes
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Steffen Rump, PhD
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