



The Challenge at Hand

Isolation and transport of RNA for medical testing, research, and drug delivery is historically very difficult. Compared to DNA's half life of 531 years, RNA has a half life of just 28 minutes.

COVID-19 has shown that this esoteric laboratory challenge is a huge business opportunity. Early on, we saw constant shortages of viral transport media needed to ship samples for diagnostic testing. More recently, the mRNA-based vaccines are often in the news because of the challenges associated with keeping them refrigerated.



About The RNA Market



The Problem

For the last decade RNA research has been one of the most important fields in life sciences. Soon, these discoveries will have a profound impact on human health with 80% of drugs predicted to be RNA-based drugs by 2040 and next generation sequencing with RNA poised to be one of the most powerful diagnostic tools.

Simpler RNA isolation, storage, and transport is a critical challenge which will broadly impact how quickly these breakthroughs are brought to market.



Our Solution

The world's first carbon-based RNA extraction methods

- Allows RNA to be extracted, processed, shipped, and stored much more easily for diagnostic testing applications
- Isolates single-stranded nucleic acids with perfect yield and purity from even the most complicated biological matrices, which greatly simplifies RNA drug manufacturing (e.g. the COVID-19 vaccines)

Currently providing kits for isolating RNA from biological materials including blood, saliva, tissues, and plant matter.



Our Solution's Advantages



INTEGRATED SHIPPING
RNA complexes with carbon for stable shipping at room temperature, eliminating the need for cold freezers.



SIMPLIFIED STORAGE
Carbon surfaces eliminate the need for viral transport media.



ULTRA PURE
Carbon surfaces have no carryover of DNA, protein, or organic solvents.



SIMPLE AUTOMATION
Compatible with liquid and bead handling automated systems.



QUICK AND ROBUST
Isolate RNA in under 10 minutes.

These advantages significantly improve RNA use for at-home testing, synthetic mRNA manufacturing, and laboratory diagnostics and testing.



The Team Making it Happen



"It worked really well! I obtained about 10-20x as much RNA as I typically do, which was great to see. The 202230 was 1.9x and the 202220 was about 2.1x. It was a very quick protocol, which was amazing too. When I was working with ~20 samples using our old method, it would've taken about an entire day just to get RNA which was DNAse treated."

— CHRISTOPHER MATACZYNSKI
Wayne State University, Detroit, MI

"We had positive news for your kit in the isolation of RNA from cell lines (good quality) that was great to see. The 202230 was 1.9x and the 202220 was about 2.1x. It was a very quick protocol, which was amazing too. When I was working with ~20 samples using our old method, it would've taken about an entire day just to get RNA which was DNAse treated."

— RNA DIAGNOSTICS, INC.
Toronto, Ontario, Canada

Life Magnetis
Anticipated Investments (Use of Funds)

\$200,022	\$600,015	\$1,000,008
<ul style="list-style-type: none"> Advertising and sales support to generate revenue at university labs, which was the majority of our revenue pre-COVID (e.g. Google ads, word-of-mouth, video, sales staff) - 31.5% Applications of the product to manufacturing RNA drugs such as the COVID-19 vaccine to address specific manufacturing issues (separating double stranded RNA from single stranded RNA) - 24% Additional sales and technical support for labs using or seeking to use our product in COVID-19 testing which is currently the majority of revenue - 30% Wefunder fee - 7.5% 	<ul style="list-style-type: none"> Seminar at universities around the US to develop collaborations for RNA based at-home testing - 35% Add genomic testing equipment to support application development - 12.5% Wefunder fee - 7.5% 	<ul style="list-style-type: none"> Build out facility for at-home testing in collaboration with CMU to deploy a test which will demonstrate our unique capabilities. Opportunities are being evaluated but likely options are a turn-key based at-home predictive cancer test or a saliva-based at-home COVID-19 test - 52.5% Wefunder fee - 7.5%

Note: only a portion of the \$1M will be raised through Wefunder.

Life Magnetis
Recent Exits

- 200+ transactions in space since 2016 (Pitchbook)
- Biotech acquired Advanced Cell Diagnostics, maker of RNAscope probes, reagent kits, hybridization systems, \$325mm.
- Qiagen acquisition of MID Bio Labs and Eriqon - Nucleic acid research tools. Terms undisclosed.
- Acis Biotechnology has raised \$75mm. Fast and convenient nucleic acid sample prep products. Last round 2018.
- LCC acquired Luigen, Products for nucleic acid extraction and purification. Terms undisclosed 2018.
- Exact Sciences acquisition of Biomatrix - \$40mm 2018. Nucleic acid extraction and stabilization
- QIA Biosolutions raised \$35mm 2019. Products to capture and amplify nucleic acids.
- Tecan acquisition of NuGen, \$54mm 2018. Nucleic acid sample prep products.
- Disprovero raised \$22mm in 2018. Innovators and Arboretum
- Ventures, Tools for nucleic acid quantification.
- Swift Biosciences has raised \$35mm. Products to improve NGS sample prep. Last round 2018.

Exits supported by Life Magnetis board members and/or advisory members:

- Armmis biosciences acquired by Cologuard for an undisclosed amount 2018.
- Transpire Genomics, Inc. acquired by Eurofins for \$100M.
- Takara Bio acquisitions in instruments and consumables for genetic research, Rubicon Genomics (\$75mm 2017), WellGen (\$50mm 2017).
- Heraeus QPCR building portfolio of life science lab consumables. Acquired ThLink (estimate \$35mm 2016) and Solulink.

These exits are not endorsements and are not guaranteed by Life Magnetis.

Life Magnetis
Attachment 1: CMU Partnership

We are excited by Life Magnetis' technology offering. I have developed the world's first carbon-based (RNA) detection methods which allow RNA to be extracted, processed, stored, and stored much more easily than with existing silica-based methods. Therefore, the College of Medicine and CHIUCR are pleased to explore further opportunities for collaboration with Life Magnetis. We commit to working with your company to discover opportunities that will enhance and strengthen all parties. Potential opportunities include, but are not limited to, the following:

- Shared talent, resources, and space
- Future applied learning for students
- Collaboration on scholarly publications and presentations
- Research partnerships

In short, we are committed to fostering the development of the relationship between the CMU College of Medicine, CHIUCR, and Life Magnetis for the benefit of both CMU and the company.

Sincerely,

George E. Kikano, MD
Vice President for Health Affairs
Director, Michigan University
Pilot, CMU College of Medicine

David C. Weindorf, PhD, PG
Vice President for Research and Innovation
General Michigan University

Erin Strang
President & CEO
General Michigan University
Director, CHIUCR/CHI

Life Magnetis

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