



TELOMIRTM
Pharmaceuticals, Inc.

January 2025
Investor Presentation

Nasdaq: **TELO**

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This presentation, statements of Telomir Pharmaceuticals' management or advisors related thereto, and the statements contained in the news story linked in this release contain "forward-looking statements," which are statements other than historical facts made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements may be identified by words such as "aims," "anticipates," "believes," "could," "estimates," "expects," "forecasts," "goal," "intends," "may," "plans," "possible," "potential," "seeks," "will," and variations of these words or similar expressions that are intended to identify forward-looking statements. Any such statements in this presentation that are not statements of historical fact may be deemed to be forward-looking statements. These forward-looking statements include, without limitation, statements regarding (i) the anticipated benefits of the preclinical testing results described herein, (ii) anticipated timelines and subject matter for additional preclinical and clinical testing of Telomir-1 and (iii) the potential therapeutic benefits of Telomir-1 generally.

Any forward-looking statements in this presentation are based on Telomir's current expectations, estimates and projections only as of the date of this release and are subject to a number of significant risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, the potential use of the data from our studies, our ability to develop and commercialize Telomir-1 for specific indications and safety of Telomir-1. These and other risks concerning Telomir's programs and operations are described in additional detail in its Annual Report on Form 10-K for the fiscal year ended December 31, 2023, which is on file with the SEC. Telomir explicitly disclaims any obligation to update any forward-looking statements except to the extent required by law.

Telomir's lead compound, Telomir-1, is being investigated for its potential to address a range of conditions, including Type 2 diabetes, Wilson's disease, progeria, Alzheimer's disease, and cancer. The company's innovative approach aims to treat the root causes of disease, offering a promising path forward in improving patient care. For more information, visit www.telomirpharma.com.

FDA Disclaimer. This presentation discusses a product candidates that are in early-stage pre-clinical development and have not yet been approved for marketing by the U.S. Food and Drug Administration. No representations are made as to the safety or effectiveness of these product candidates for the uses for which they are being studied. There is no assurance that either product candidate will proceed through development or will receive FDA approval for marketing.

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CORPORATE OVERVIEW

Telomir Pharmaceuticals Inc. (Nasdaq: TELO) is a pre-clinical-stage pharmaceutical company leading the development of age-reversal science by focusing on addressing the root causes of age-related conditions, rather than just managing the Symptoms.

Telomir-1 is a novel small molecule metal ion regulator with the potential to lengthen the DNA's protective telomere caps, which are crucial in the aging process, with a broad potential to affect several pathologies and age-related diseases such as Progeria (a rare genetic disorder causing accelerated aging in children), Type 2 Diabetes, Macular Degeneration (AMD), Wilson's disease, cancer, and Alzheimer's disease.



The Company's goal is to explore the potential of Telomir-1 starting with ongoing research in animals and then in humans.

Based on our pre-clinical studies to date we assemble experimental evidences showing that TELOMIR-1 may potentially serve as a metal ion regulator of essential metals such as iron, copper and zinc.

These essential metals are trace elements that play crucial roles in various physiological processes, but they can also have harmful effects when present in excess or deficiency.

Telomir-1 may protect cells by reducing excess iron and copper linked to age-related conditions and diseases, restoring balance through ion level modulation and improved cellular function.

TELOMIR MANAGEMENT

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Erez Aminov | Chairman & CEO

- A biotechnology leader driving innovation in drug development and strategic growth.
- Current Chairman and CEO of Mira Pharmaceuticals (Nasdaq: MIRA): Led the preclinical development of multiple drug candidates and successfully submitted an IND while securing funding and meeting critical deadlines.
- Collaborated with major universities like University of Miami, Bascom Palmer Eye Institute, and helped form strategic partnerships.



Michelle Yanez, MBA | Chief Financial Officer

- Senior financial executive with 25+ years of experience in public and privately held companies
- Former Director at BioDelivery Sciences International, Inc. (NASDAQ:BDSI) where she played a pivotal role in guiding the company in a \$600 million exit
- Co-Founder of Santander Pharma, a privately held life sciences consulting firm that provides business development and commercial strategy services to pharmaceutical, medical device, and life science companies offering guidance throughout all stages of commercial development.



Itzchak Angel, PhD | Chief Scientific Advisor

- Over 40 years of experience in guiding medical, pharmaceutical, drug, and business development in both large and emerging companies.
- Expertise in small molecules, botanical drugs, biotechnology products, delivery systems, medical devices, and drug-device combinations.
- Former Head of Pharmacology at Synthelabo (Sanofi-Aventis) where he participated in research and development of drugs such as Xatral (alfuzosin), Ambien (zolpidem) and Mizollen (mizolastine).



Alex Weisman, PhD | Scientific Advisor

- Occupied executive positions of VP R&D and Chief Scientist at numerous Israeli and international pharmaceutical companies. Currently serve as an advisor and management team member for companies developing new products for the chemicals, pharmaceuticals, and food industries.
- More than 30 years of experience in the development, characterization, scale-up, technology transfer, troubleshooting, production and registration of novel and generic drugs, and other pharmaceutical and chemical products.

TELOMIR ADVISORS



Francis E. O'Donnell, JR., M.D. | Special Advisor

- Dr. O'Donnell, leads clinical strategy and evaluates potential products for unmet medical needs
- He has 30 years of pharmaceutical development experience and earned his BA and MD from Johns Hopkins.
- Dr. O'Donnell holds over 40 U.S. patents.



Mark Oken | Special Advisor

- Mr. Oken, chairman of Falfurrias Capital, co-founded the firm and manages its portfolio.
- Formerly Bank of America's CFO, he also worked at Price Waterhouse and the SEC.
- A Vietnam veteran, he has chaired The Mint Museum, Charlotte Symphony, and Carolinas Aviation Museum.



Peter McDonnell, M.D. | Special Advisor

- Dr. Peter J. McDonnell, Director of the Wilmer Eye Institute at Johns Hopkins, is a leading expert in corneal disease and surgery.
- He earned his chemistry degree from Dartmouth, his MD from Johns Hopkins, and completed training at the Wilmer and Doheny Eye Institutes.
- Dr. McDonnell has held prominent roles, including Chair of Ophthalmology at UC Irvine and Professor at USC.



Michael Roizen, M.D. | Special Advisor

- Dr. Michael Roizen, an advisor to the Company since 2023, is Chief Wellness Officer Emeritus at Cleveland Clinic and a professor of medicine.
- He developed the "RealAge" concept, authored five #1 New York Times bestsellers, holds 14 U.S. patents, and has over 165 peer-reviewed publications.
- Dr. Roizen earned his BA from Williams College, his MD from UCSF, and held leadership roles at UCSF, the University of Chicago, and SUNY Upstate.

THERAPEUTIC RESEARCH APPROACHES FOR TELOMIR-1

Key ongoing approaches include:



Identify potential molecular targets for selective modification and control by Telomir-1



Investigating Telomir-1's effects on copper and iron regulation at the cellular level and in preclinical models.



Explore the interactions between iron, copper and zinc on variable cellular functions focusing on Telomere length and its regulation



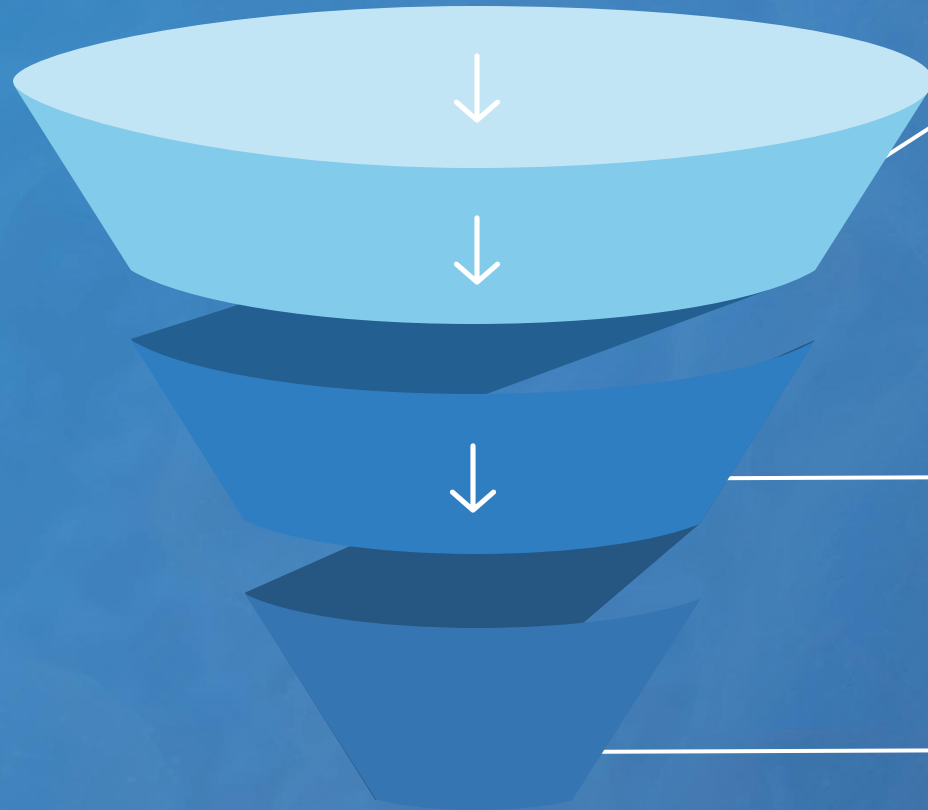
Explore available disease and functional models to better understand the therapeutic potential of the drug



Exploring Telomir-1's role in addressing metal toxicity, which occurs when metals like copper, iron, or lead accumulate to harmful levels in the body.

IMPACT OF IRON OVERLOAD

IRON OVERLOAD



Cellular

- Oxidative stress
- Mitochondrial dysfunction
- DNA dysfunction
- Ferroptosis
- Cellular senescence

Pathology

- Progeria
- Metabolic Syndrome
- Age-related Macular Degeneration (AMD)
- Fredrick's Ataxia
- Alzheimer's Disease
- Hemochromatosis

Functional

- Accelerated aging
- Senescence
- Telomer shortening
- Insulin resistance
- Inflammation
- Neurodegeneration

Impact of Iron and Copper Overload

IRON OVERLOAD



- Metabolic Syndrome
- Fredrick's Ataxia
- Hemochromatosis



- Accelerated Aging
- Alzheimer's Disease
- AMD

COPPER OVERLOAD



- Wilson's Disease
- Menkes Disease
- AMD



THERAPEUTIC FOCUS AREAS

Key ongoing initiatives include:



Progeria Research

Following promising results with *C. elegans* models, Telomir has demonstrated the ability of Telomir-1 to restore lifespan and normalize accelerated aging in nematodes with a *wrn-1* gene mutation, analogous to Werner Syndrome in humans. Utilizing advanced microfluidic technology, the study highlighted improvements in longevity and key physiological parameters.



Cancer Models

Exploring anti-cancer applications using xenograft studies.



Type 2 Diabetes Studies

After the success achieved with the zebrafish model, Telomir is currently conducting a rat diabetic model to further strengthen the data on Telomir-1's efficacy in reversing key metabolic parameters.



Alzheimer's Disease and other neurodegenerative diseases

Investigating Telomir-1 for its potential to mitigate cognitive decline and neurodegeneration associated with Alzheimer's and Fredrick's Ataxia.



Macular Degeneration (AMD)

Exploring Telomir-1's role in addressing retinal cell degeneration and Drusen formation, which occurs when metals like copper or iron accumulate to harmful levels



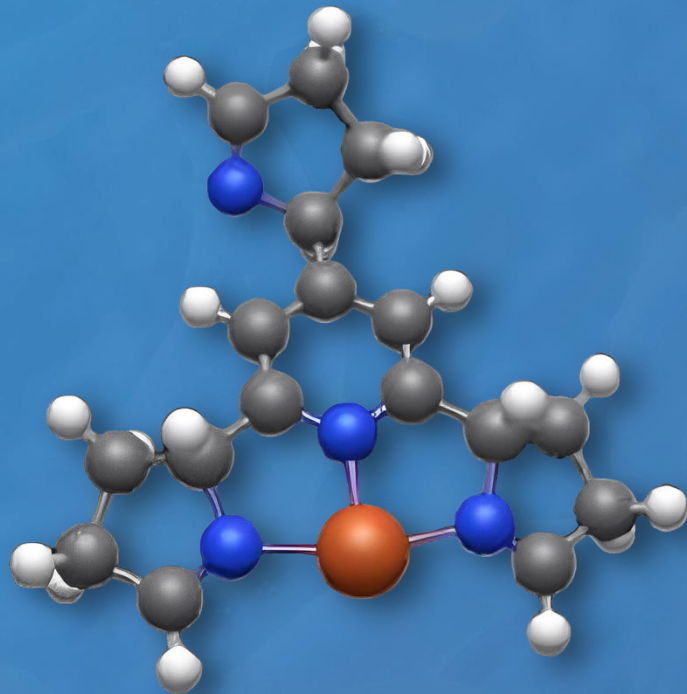
Wilson's Disease Study

Investigating Telomir-1's effects on copper regulation in preclinical models.

PRE-CLINICAL RESEARCH

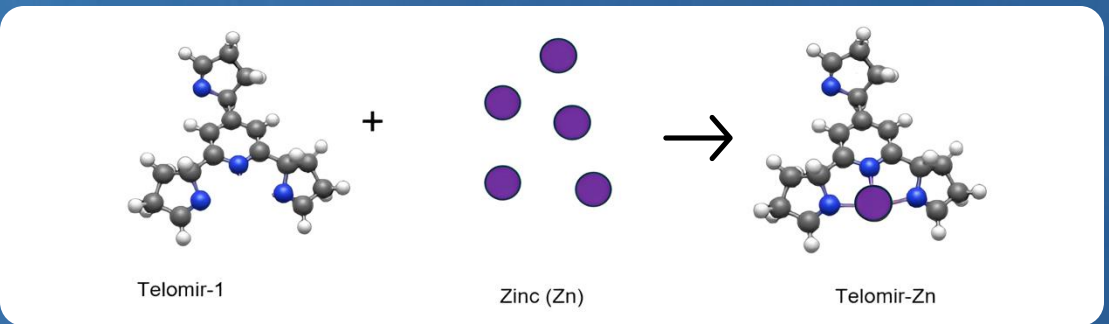
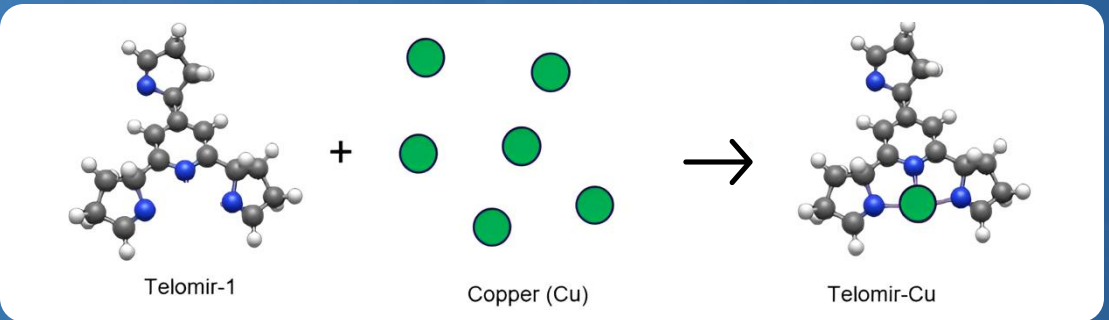
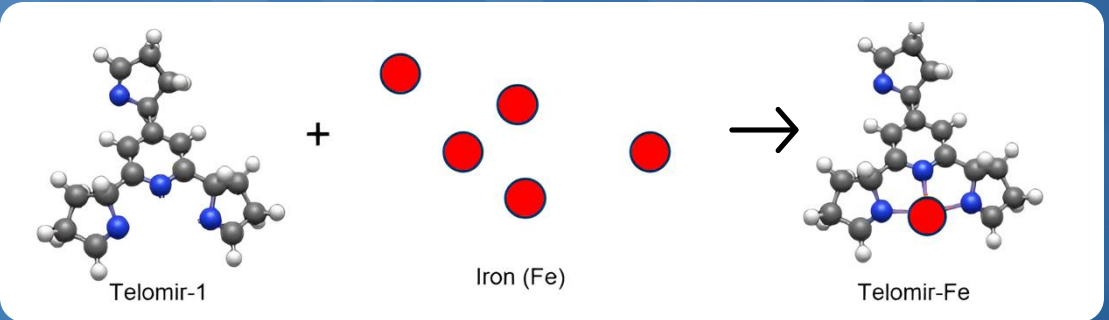
Age Reversal and Increased Longevity

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White: Hydrogen
Gray: Carbon

Blue: Nitrogen
Orange: Metal

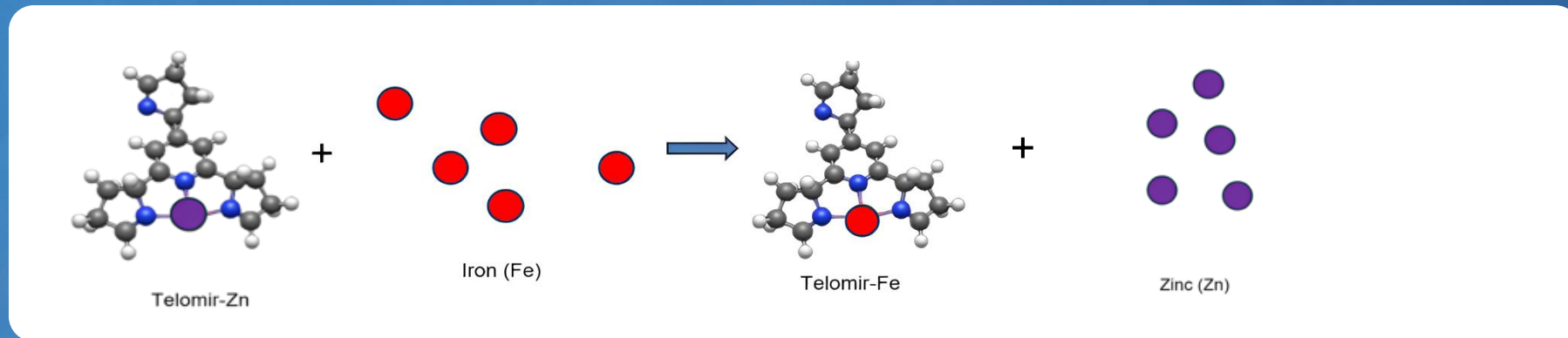


PRE-CLINICAL RESEARCH

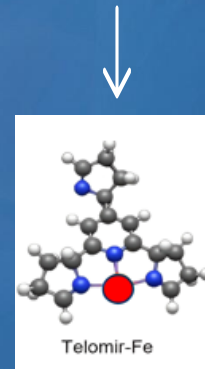
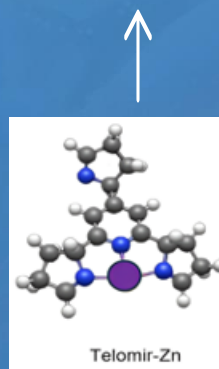
Age Reversal and Increased Longevity

Exchange mechanisms:

Due to the lower affinity of Telomir-1 to Zinc, compared with Iron, Telomir-Zn will exchange the free Iron levels in the cells with beneficial Zinc and will chelate the free iron and take it outside the cell



In the Cell



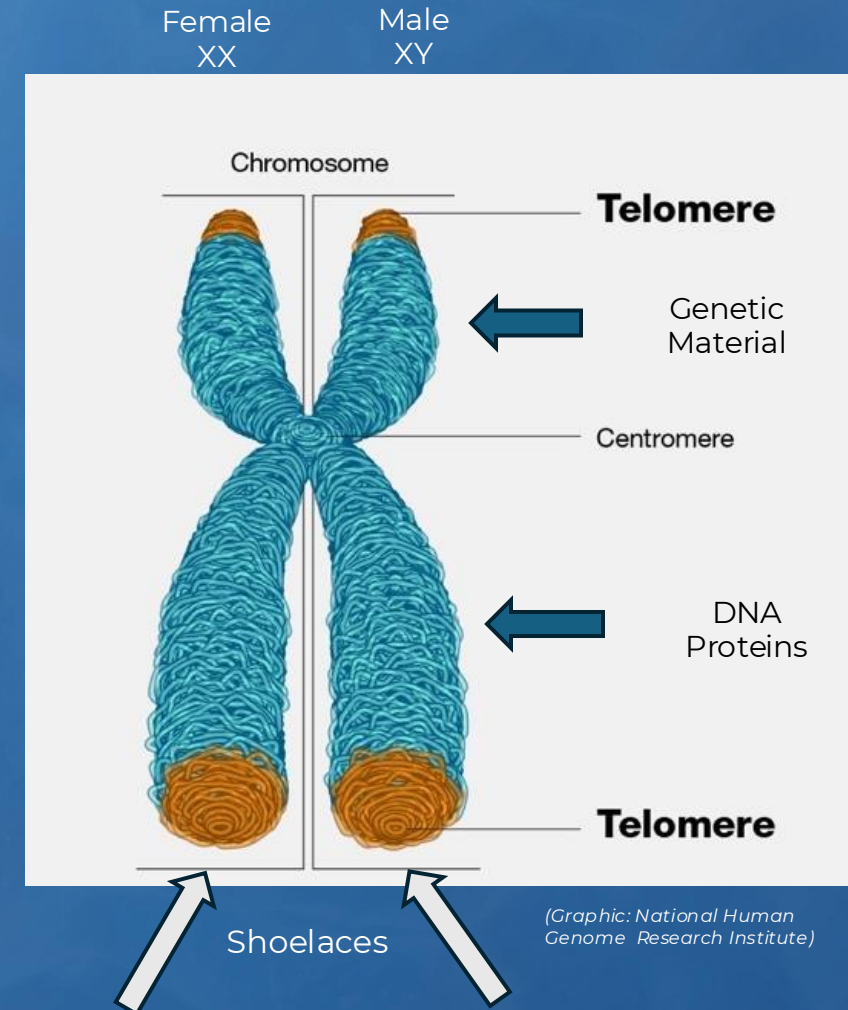
Outside the Cell

What are Telomeres?

Age Reversal and Increased Longevity

Telomeres are the protective end caps of a chromosome made up of DNA sequences and proteins (TTAGGG).

- During cell division, telomeres allow cells to divide without losing genes by protecting the chromosome ends from becoming damaged similar to a plastic cap on the end of a shoelace.
- This process would alter the genetic sequence of the chromosomes which could lead to cell death as well as certain types of cancers and diseases
- As humans age, telomeres shorten, with metal reactivity accelerating the process, which increases the likelihood of contracting a number of degenerative and age-related diseases.

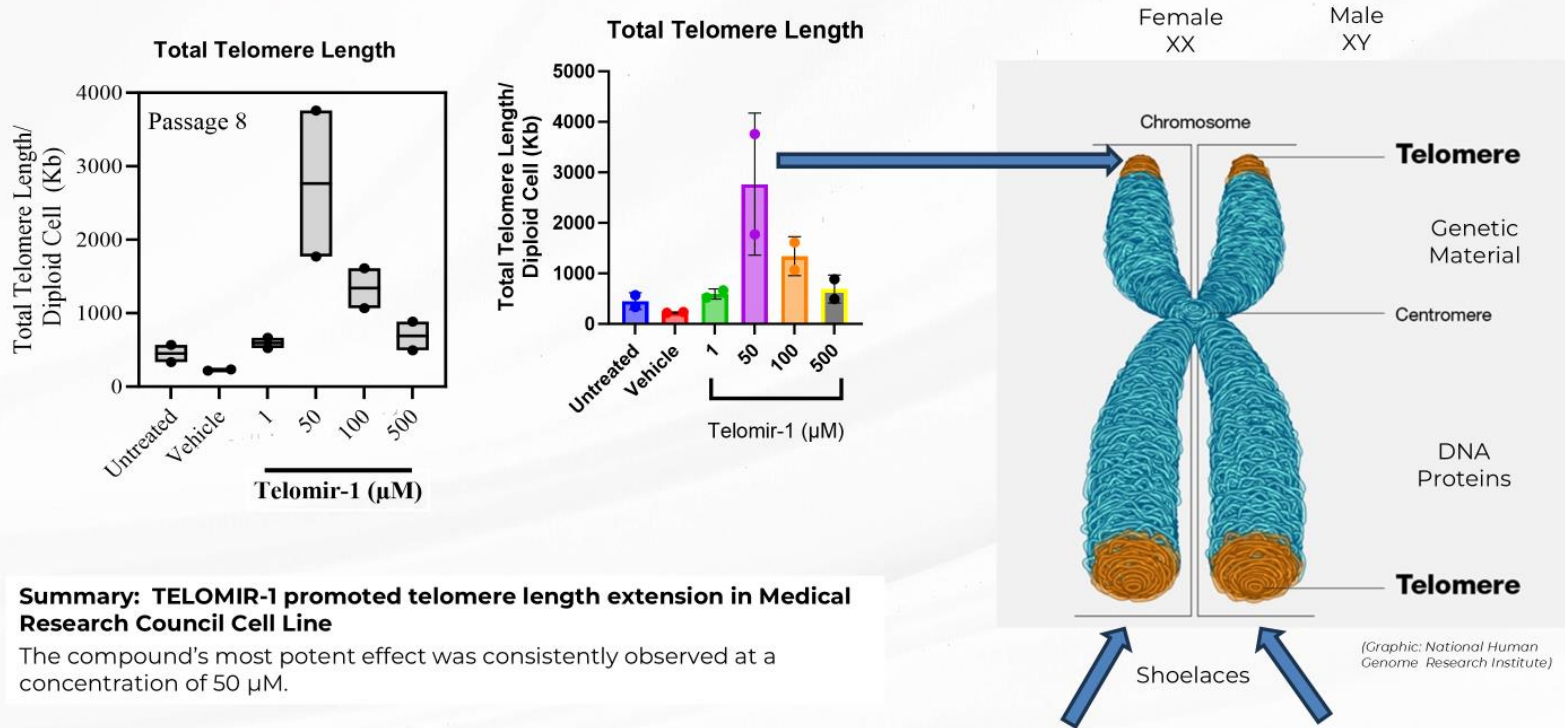


PRE-CLINICAL RESEARCH

Age Reversal and Increased Longevity

Telomere and Telomer length

IN VITRO HUMAN STEM CELL THERAPY WITH FRONTAGE LABORATORIES TELOMERE LENGTH DETERMINATION (TTAGGG)



Summary: TELOMIR-1 promoted telomere length extension in Medical Research Council Cell Line

The compound's most potent effect was consistently observed at a concentration of 50 µM.

PRE-CLINICAL RESEARCH

Age Reversal and Increased Longevity

Study Summary and Methodology

The preclinical study, conducted in collaboration with Nagi Bioscience SA, utilized a sophisticated in vivo microfluidic-based assay to assess the effects of Telomir-1 on the nematode *Caenorhabditis elegans*, a well-established model for aging studies. The microfluidic platform allowed precise, automated tracking of lifespan, healthspan, and age-related mobility decline in real-time, enabling the research team to accurately measure the effects of Telomir-1 on these critical metrics.

Two forms of Telomir-1 were administered in two concentrations, allowing the study to examine dose-dependent responses in treated subjects. The study found that Telomir-1 significantly enhanced lifespan and healthspan parameters in aged microorganism populations.

Key Findings Included:

Increased Lifespan:

Telomir-1 was associated with a statistically significant increase in lifespan among treated populations. This further supports Telomir-1's role in promoting longevity.

Enhanced Mobility in Older Organisms:

Subjects treated with Telomir-1 showed improved motility, particularly in later stages of life, compared to untreated controls. This enhanced movement in advanced age suggests a slowing of the aging process, as mobility is a key indicator of biological health.

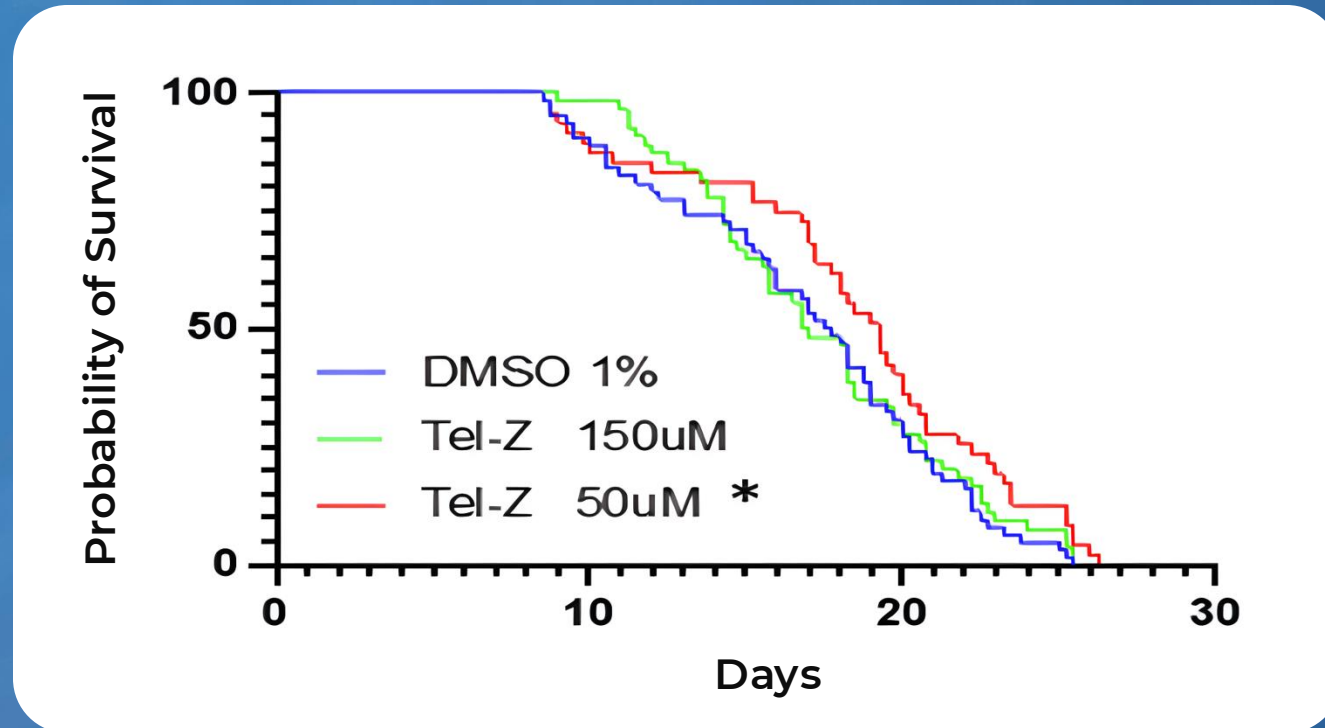
Reduced Biological Aging:

The study demonstrated a measurable reversal of biological age markers in subjects treated with Telomir-1. This significant finding points to Telomir-1's potential to slow down, and in certain aspects, reverse biological aging, making it a promising candidate for longevity treatments.

PRE-CLINICAL RESEARCH

Age Reversal and Increased Longevity

Effect on Median Lifespan

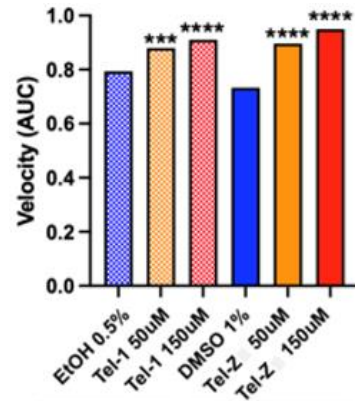


Treatment with Telomir-1 significantly enhances life span at the low concentration of 50 μ M

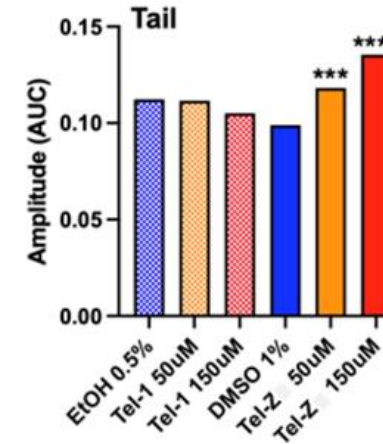
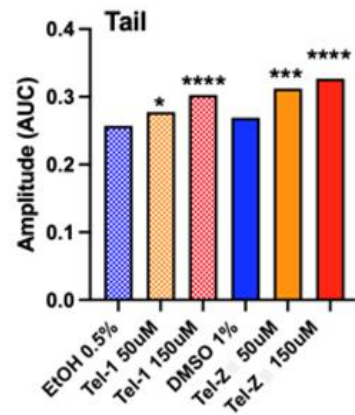
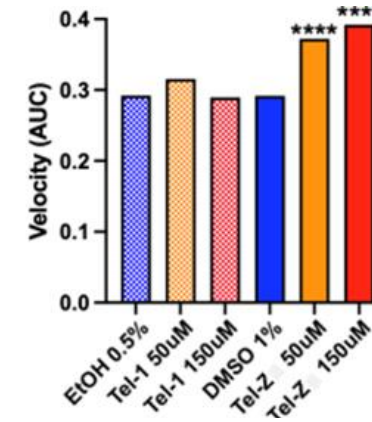
PRE-CLINICAL RESEARCH

Age Reversal and Increased Longevity

Young Population
(Day 0 – Day 10)



Old Population
(Day 11 – Day 20)



Treatment with Telomir-1 significantly enhances several parameters of motility in young and old populations

PRE-CLINICAL RESEARCH

Age Reversal and Increased Longevity

Study in Progeria - Summary and Methodology

The preclinical study, conducted in collaboration with Nagi Bioscience SA, **used nematodes** (*C. elegans*) having a mutation at the wrn-1 gene. Human equivalent of this gene is implicated in Werner Syndrome (Progeria).

Key Findings Included:

Subjects with Wrn-1 gene mutation had a lower life expectancy that normal wild-type nematode.

Increased Lifespan:

The study demonstrates significant age-reversal effects in wrn-1 mutated nematodes treated with Telomir-1. It was demonstrated that this treatment was capable to effectively bring the longevity level back to levels which are not significantly different from normal animals

Enhanced Mobility in Older Organisms:

These effects include an extended healthy lifespan and normalization of several other physiological parameters such as movement velocity and tail amplitude.

PRE-CLINICAL RESEARCH

Reversal of Key Type 2 Diabetes Parameters

Study Overview and Results

In collaboration with Pentagrit, Telomir evaluated two forms of Telomir-1, administered orally at three different doses, in zebrafish models of Type 2 diabetes mellitus induced by a high-calorie diet. The study assessed key metabolic indicators, including fasting glucose levels, Oral Glucose Tolerance Test (OGTT), insulin concentrations and HOMA-IR.

Key Findings Included:

Reversal of Hyperglycemia:

Telomir-1 demonstrated dose-dependent efficacy in normalizing fasting blood glucose levels, restoring glucose homeostasis.

Significantly Reduced Insulin Resistance, as measured by HOMA-IR Values:

Telomir-1 showed a substantial improvement in insulin sensitivity to near pre-diabetes values, underscoring its potential to mitigate insulin resistance.

Enhanced Glucose Clearance:

Significant improvements in OGTT results highlighted Telomir-1's impact on glucose metabolism.

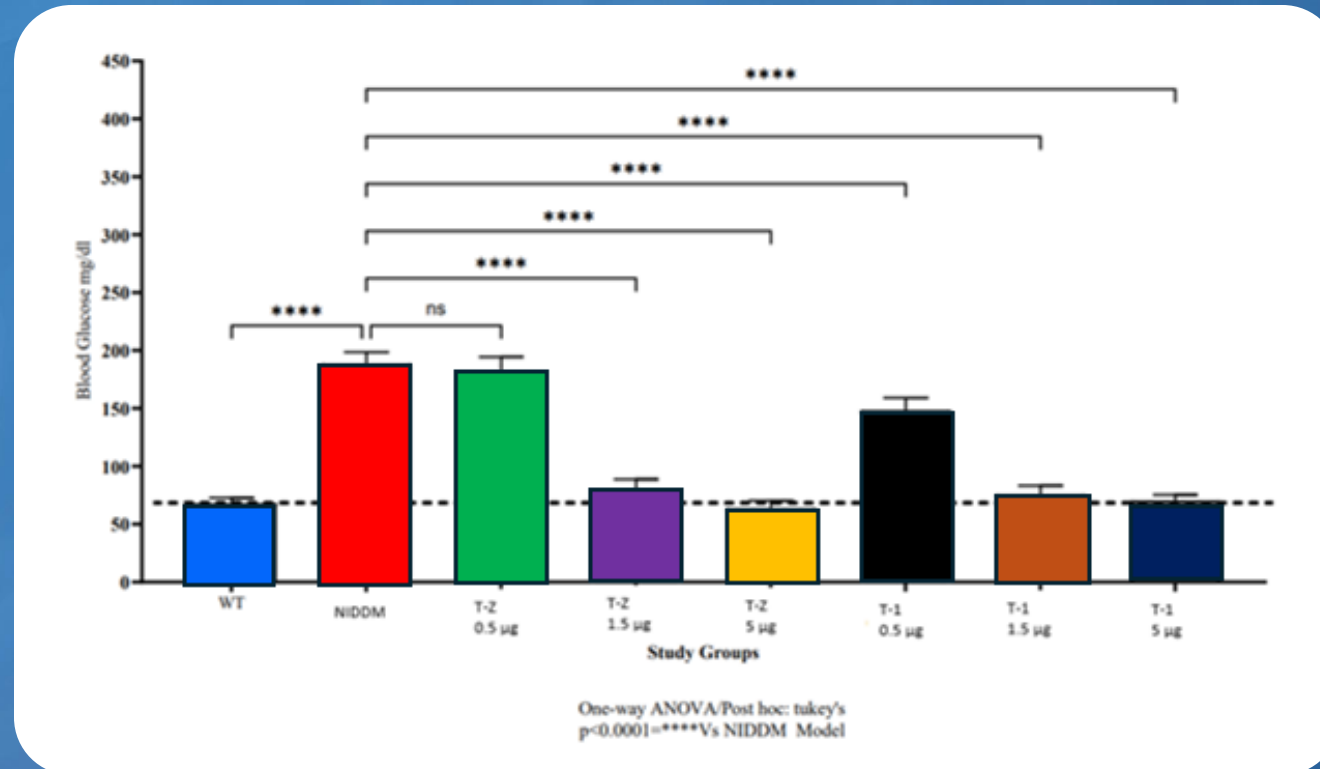
Increased Survival Rates:

Treated models exhibited improved survival compared to controls, showcasing Telomir-1's comprehensive therapeutic potential.

PRE-CLINICAL RESEARCH

Reversal of Key Type 2 Diabetes Parameters

Fasting Blood Glucose Levels – Day 7

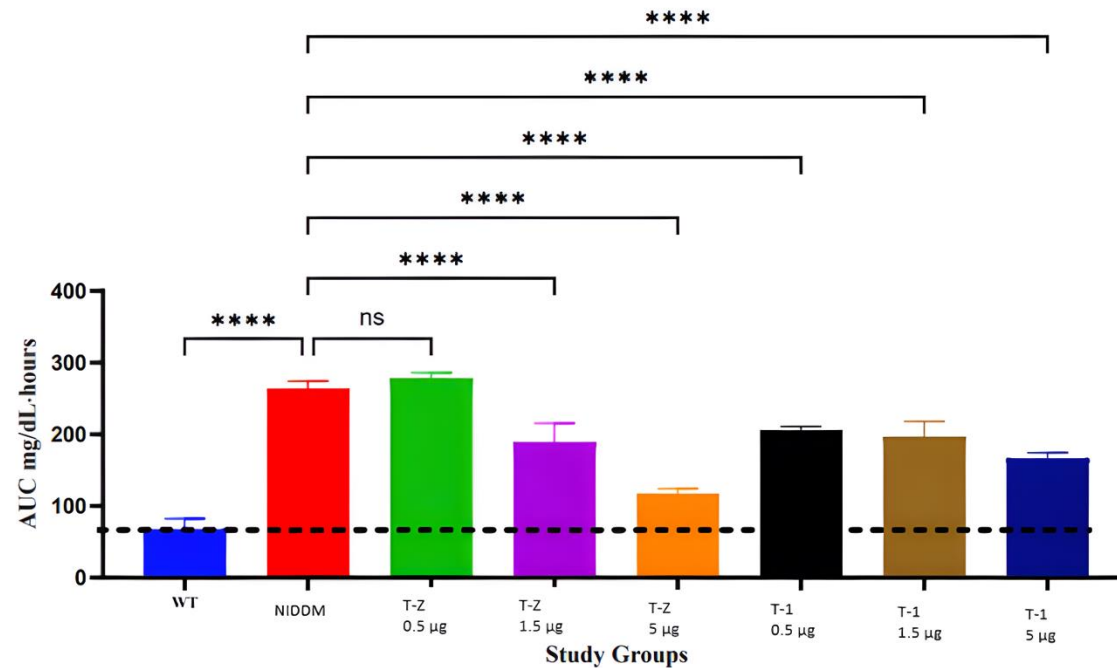


Telomir-1, in two forms, significantly and dose-dependently normalizes fasting hyperglycemia

PRE-CLINICAL RESEARCH

Oral Glucose tolerance test (OGTT), Area under the curves

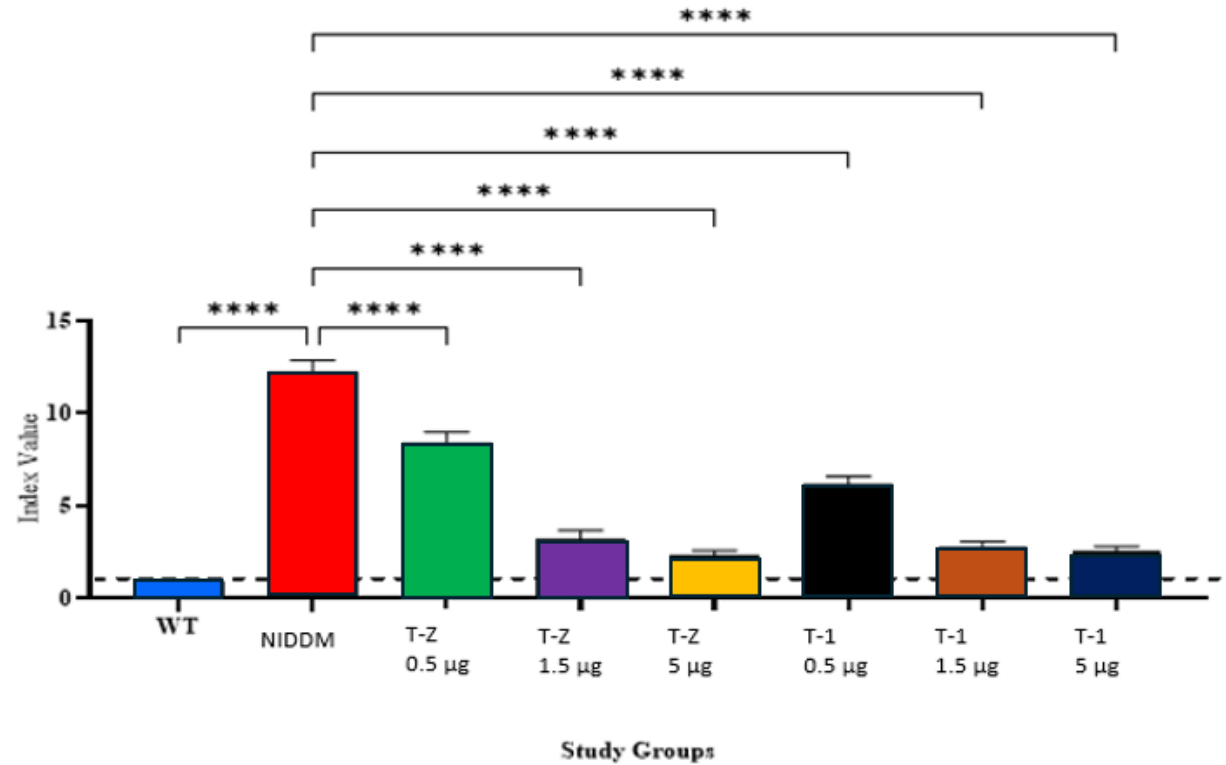
Total Area under curve – Day 7



Telomir-1, in two forms, significantly and dose-dependently reduces or normalizes glucose AUC levels following OGTT.

PRE-CLINICAL RESEARCH

HOMA -IR-Day 7



Telomir-1, in two forms, significantly and dose-dependently significantly reduces or normalizes Homa-IR.

ON-GOING STUDIES

Other Key ongoing Studies



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Progeria Research

Studies on Telomere length in human Progeria cells in vitro



Type 2 Diabetes Studies

Study in diet-induced diabetes model in rats



Age-related Macular Degeneration (AMD)

Exploring Telomir-1's effects on cultured human retinal cells.



Wilson's Disease

In vitro copper toxicity in human cell lines ongoing. Copper induced toxicity in mice planned.



Cancer Models

Xerographs model in mice ongoing



Alzheimer's Disease, AMD and other neurodegenerative diseases

Studies in specific cell lines and in animal models planned

ANTICIPATED TIMELINE FOR TELOMIR-1



2025
Q1

- **CMC:** Synthesis, Upscaling & Formulation
- **Pharmacology:** Screening and characterization
- **ADME:** In Vitro Metabolism
- **Toxicology:** Initial toxicology & General Pharmacology

2025
Q2

- **CMC:** Stability, Pharmacology: Characterization & Consolidation
- **ADME:** PK/PD and Formal DMPK
- **Toxicology:** MTD Rat/Dog

2025
Q3

- **CMC:** GMP, Stability, Drug product development and Clinical DP development, Pharmacology: Consolidation
- **ADME:** Formal DMPK
- **Toxicology:** Formal Toxicology
- **Regulatory:** Prepare IB and IND

2025
Q4

IND Submission

MARKET OPPORTUNITY

Summary of US Epidemiology

The eligible patient pool analysis for Telomir-1 highlights a potential large patient pool looking for potential treatments to their conditions.

	Total Eligible Population	Diagnosed Prevalence	Treatment Rate	Total Addressable Market
Type 2 Diabetes	34-45M	25-27M	88%	\$57.47B
Cancer	18M	1.9M	Nearly 100%	\$16.7B
Alzheimer's Disease	6.5M	6.5M	50%	\$3.1B
AMD	19.8M	20M	Variable. Around 20%	\$18B

MARKET OPPORTUNITY FOR RARE DISEASES

Summary of US Epidemiology

The eligible patient pool analysis for Telomir-1 highlights a potential large patient pool looking for potential treatments to their conditions.

	Total Eligible Population	Diagnosed Prevalence	Treatment Rate	Total Addressable Market
Progeria (Hutchinson-Gilford Progeria Syndrome)	20 children in the U.S.	Most cases	Limited, Lonafarnib is the only approved drug	Minimal
Wilson's Disease	6-10K	Many cases remain undiagnosed.	Includes chelating agents like penicillamine and zinc salts.	\$200-900M
Friedreich's Ataxia	6K	Most cases	SKYCLARYS™ (omaveloxolone) is the first FDA-approved treatment.	\$600.5M, projected to reach 1.71B by 2034
Menkes	16-40 new cases annually	Improved detection through genetic testing	Includes parenteral copper histidinate administration.	Limited

GROWTH STRATEGY

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01

Continue pre-clinical development of Telomir-1 across a range of diseases and progress into clinical development

02

Advance Telomir-1 through clinical development and FDA approval

03

Identify additional product candidates and expand current candidates into additional diseases

04

Explore strategic collaborations and partnerships to maximize the value of our product candidates

INVESTMENT HIGHLIGHTS

Telomir-1



TELOMIR-1 is novel small molecule metal ion regulator, with a broad potential to affect several pathologies and age-related diseases such as Progeria, Type 2 Diabetes, AMD, Wilson's disease and cancer.



Based on our pre-clinical studies to date we assemble experimental evidences showing that Telomir-1 may potentially serve as a metal ion regulator of essential metals such as iron, copper and zinc.





The Company's goal is to explore the potential of Telomir-1 starting with ongoing research in animals and then in humans.

A blue-tinted photograph of two people from behind, looking at a computer monitor in a meeting room. The text 'Thank you.' is overlaid in white.

Thank
you.

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