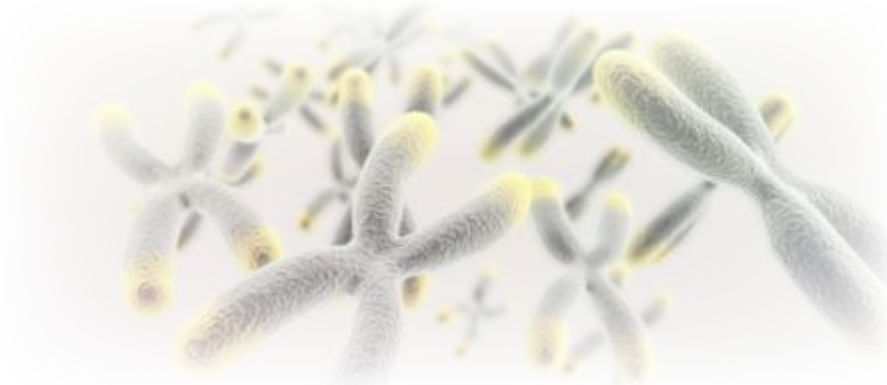
TELOMERE COIN

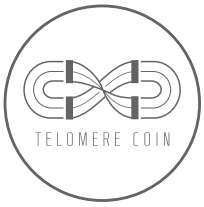
# defytime Telomere Total Solution

# TXY IEO WHITE PAPER

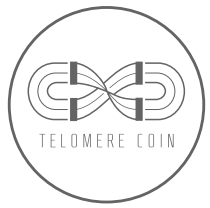


Ver.2.0.1

The telomere total solution program will raise a lifespan revolution!

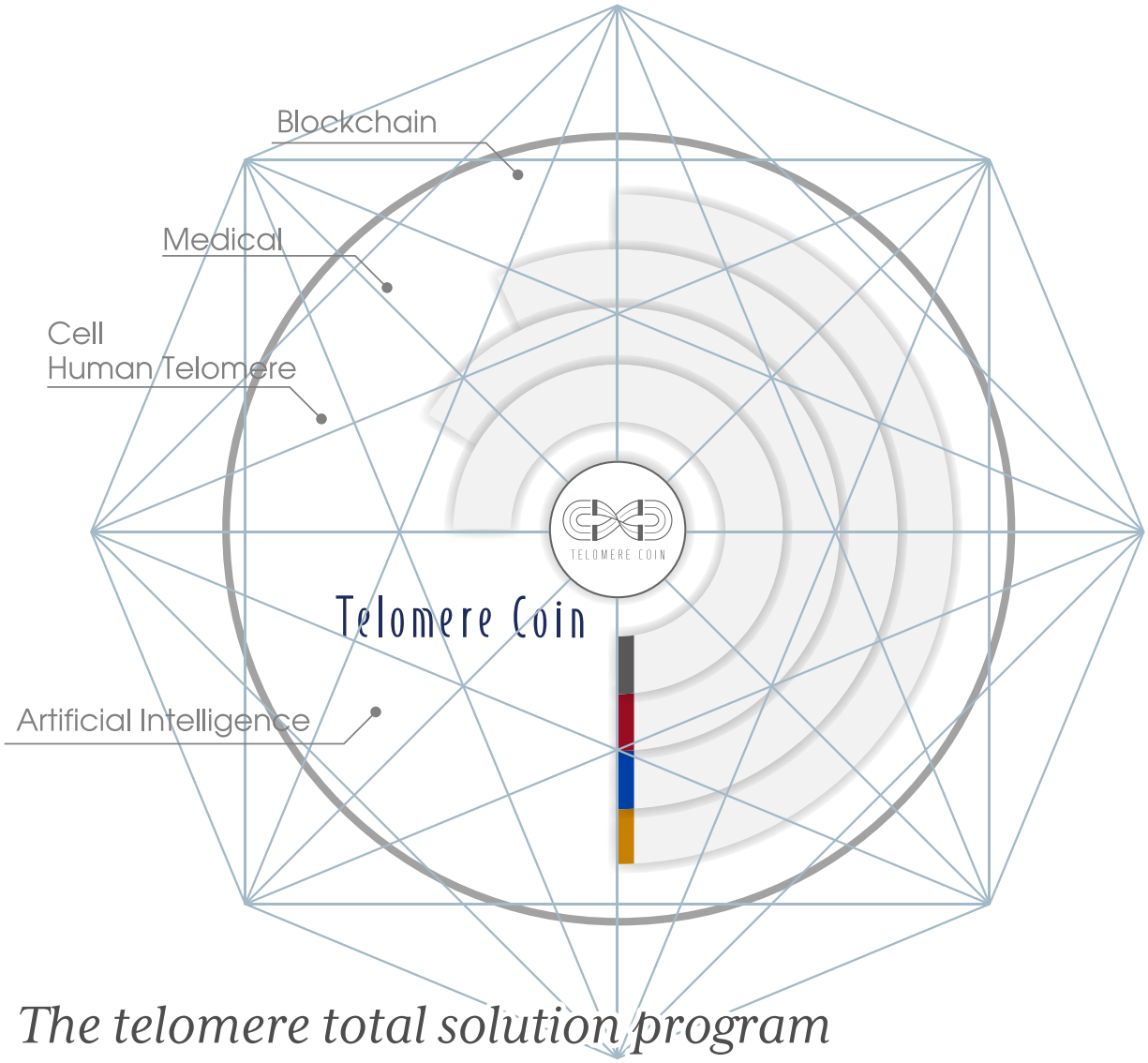



# TABLE OF CONTENTS



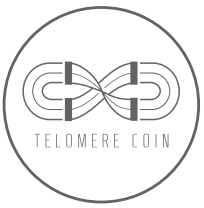

# 1. MISSION AND VISION

Our company's purpose is to maximize the beneficiaries and social values of the health span effect by Bill Andrews, Ph.D. telomere research results, and to maximize social contribution by maximizing its sustained growth period.




*The telomere total solution program*
*will raise a lifespan revolution!*

TAT TSA TAM TAR TLT

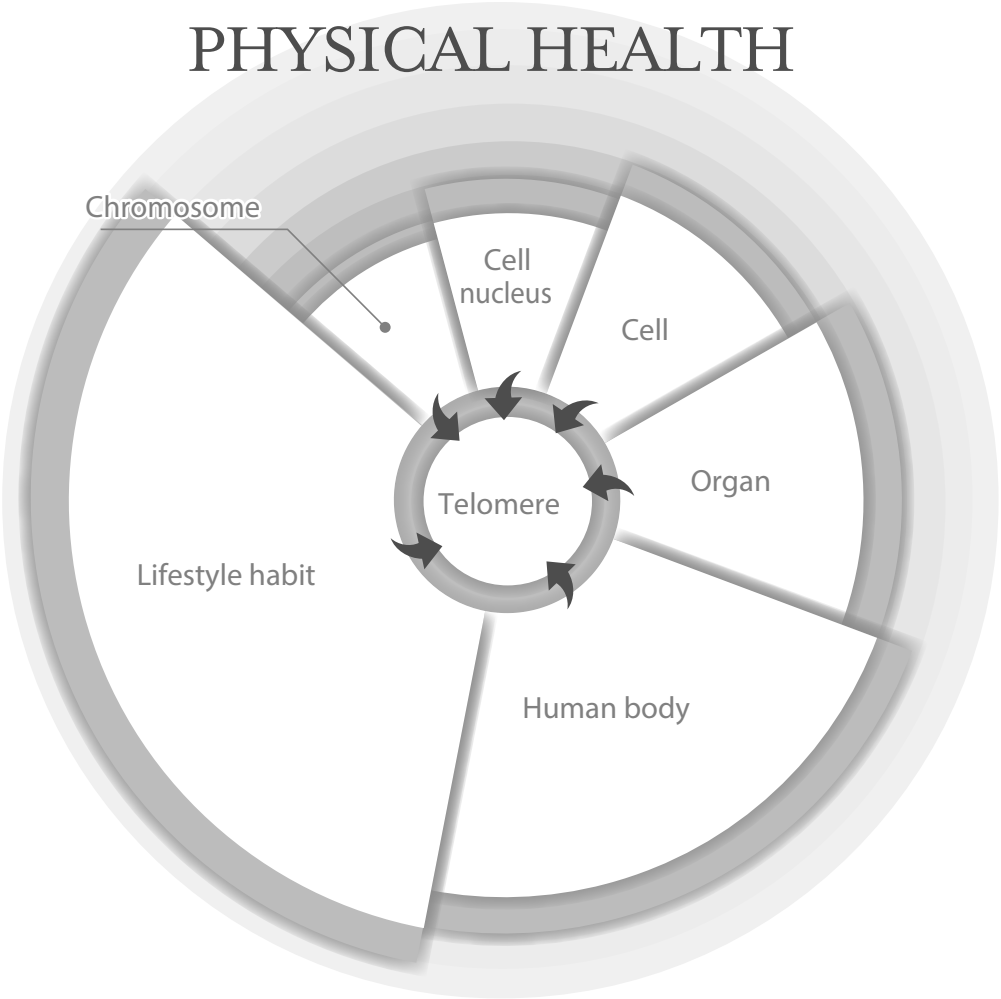


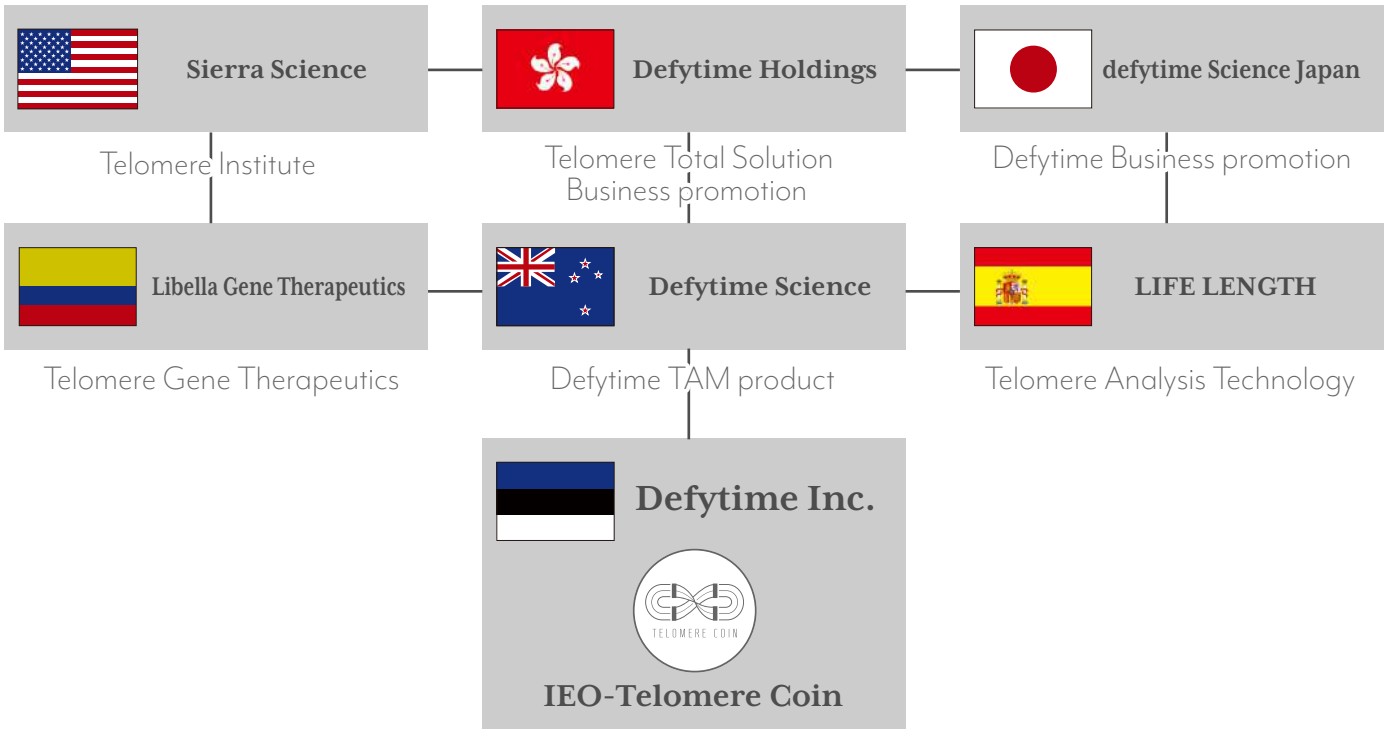

# 2. INTRODUCTION

# Have you ever thought about what "health" is ?

Health is a state in which all the parts of the body are functioning normally. The brain, organs, bones, and blood vessels are essential parts of the human body. These parts consist of "cells", the smallest units of the human body. This means that we are "healthy" when our "cells" are normal. Then, what is a "normal cell"? Each cell has chromosomes. Human telomeres are at the ends of the chromosomes.

The human telomeres dictate the health of the cell. In the human body, each time cells divide, telomeres become shorter. When the telomeres reach a certain length, the cells stop dividing and die. Keeping telomeres long will lead to health and longevity. Bill Andrews, Ph.D., a molecular biologist, discovered the enzyme called "human telomerase" for the first time in history.

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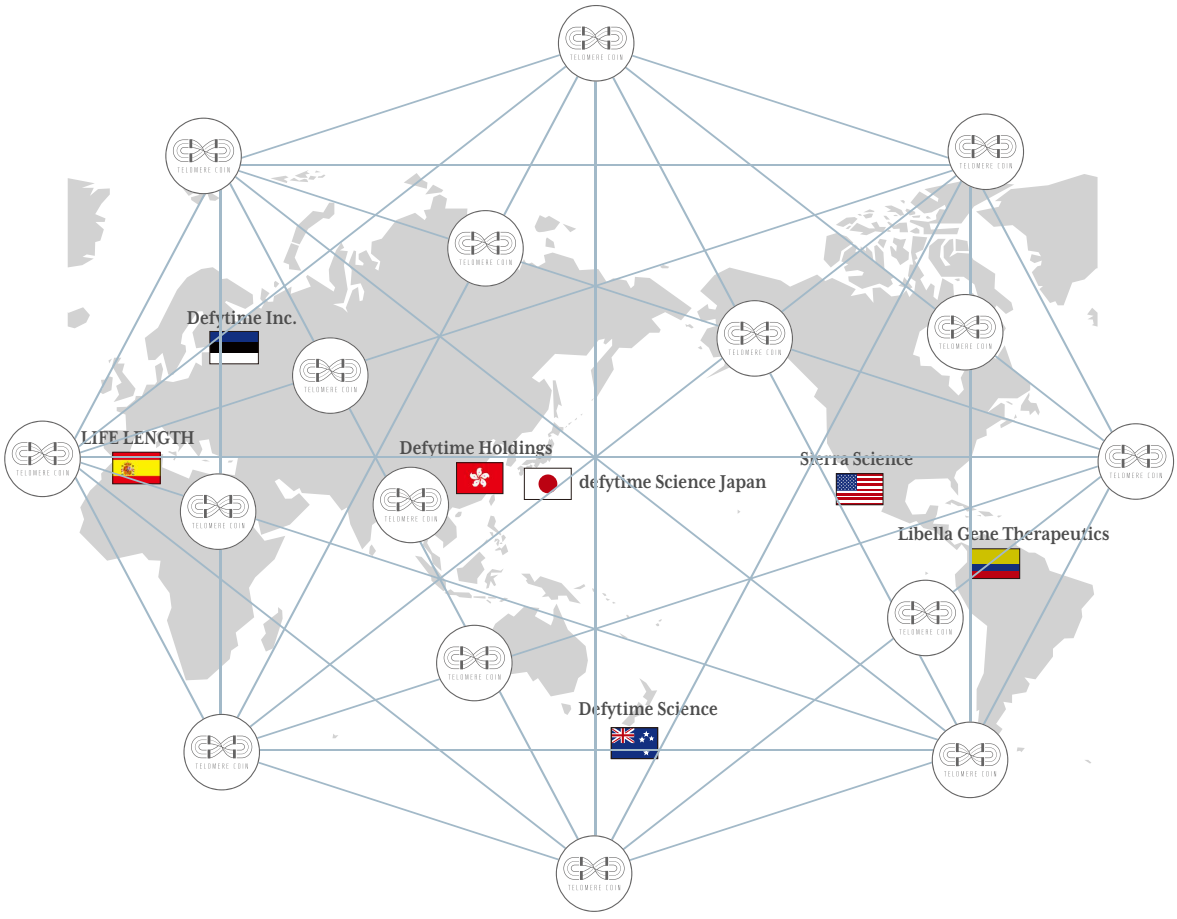
Defytime Holdings
defytime Science Japan
Telomere Institute
Telomere Total Solution
Business promotion
Defytime Business promotion
Libella Gene Therapeutics
Defytime Science
LIFE LENGTH
Telomere Gene Therapeutics
Defytime TAM product
Telomere Analysis Technology
Defytime Inc.
IEO-Telomere Coin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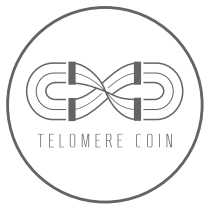



# 3. MARKET OVERVIEW

# 40% of its population will be over 65 in 2050, according to a new analysis by the U.S. Census.

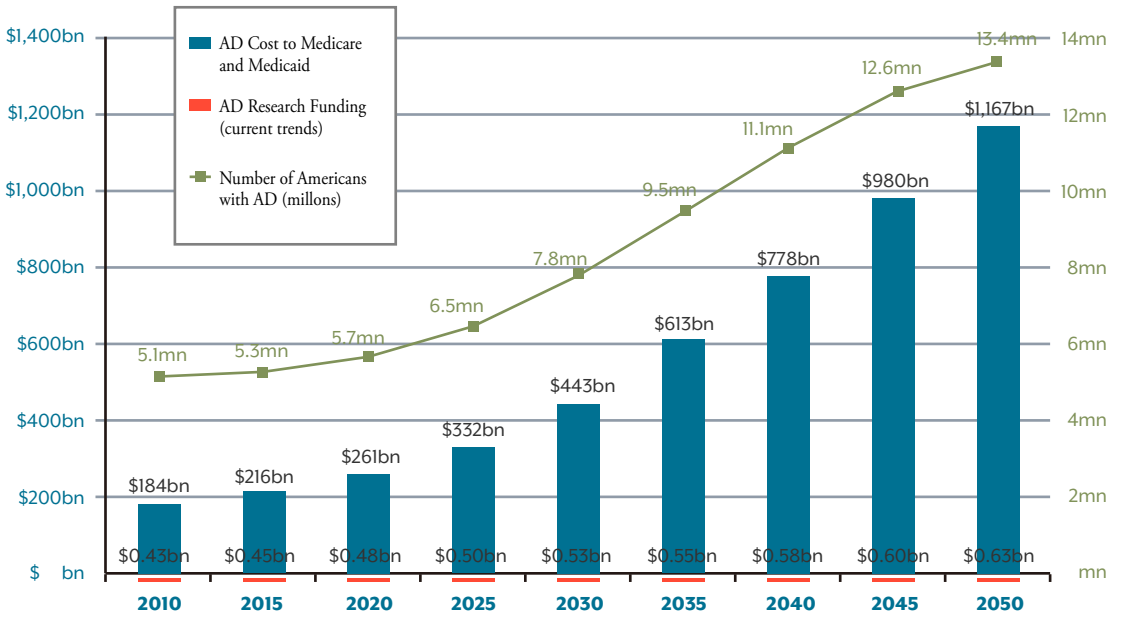
Aging populations have become part of the anxiety in many countries, which have to decide how they will support their old people and replace them in the workforce. The issue among the world's largest nations is worst in Japan. Some 40% of its population will be over 65 in 2050, according to a new analysis by the U.S. Census.

## An Aging World : 2015

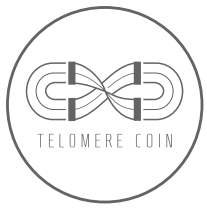

The age burden for Japan is already terrible, which makes solutions more difficult to come by. It has no way to replace the 27% of its population that is over 65, as the nation's total population is expected to drop from 127 million in 2015 to 107 million in 2050.

Whatever positive solutions, along with failed plans, the Japanese government and private enterprise come up with to combat the trend, other countries will watch closely. Among developed countries, the U.S. population is expected to grow from 321 million last year to 398 million in 2050. Over the same period, people who are 65 or older will grow from 14% of the population to 22%. The problem will be worse in Germany, France and Italy.

Even China faces the same problem, although the percentages of the population are not so high. China's population was 1.36 billion last year, and it is forecast to be 1.30 billion in 2050. The portion of its population over 65 will grow to 27% from the current number of 10%.




Sources:Alzheimer's Study Group, *A National Alzheimer's Strategic Plan: The Report of the Alzheimer's Study Group*(March 2009); Alzheimer's Association.2009 *Alzheimer's Disease Facts and Fiaures*(March 2009): National Institutes of Health Office of the Budget

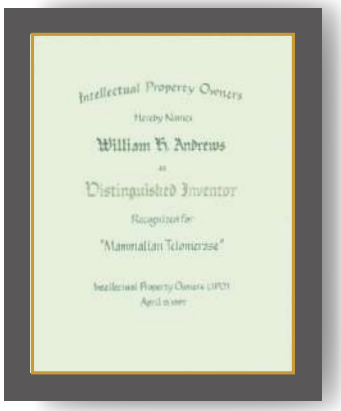



# 4. RESEARCH AND DEVELOPMENT

## About Telomere

**Bill Andrews, Ph.D.**

in Molecular and Population Genetics
at the University of Georgia in 1981




2nd Place as
"National Inventor of the Year Award"
in 1997

Hello
This is Dr. Bill Andrews,
I've been researching biotechnology for the past 36 years and spent the last 24 years researching how to create healthy living by preventing and reversing human aging. My company, Sierra Sciences, has done a lot of studies on the biology of telomeres, the aging clock, and the relationship between telomeres and telomerase. As a result, we were able to find many Telomerase Activating Molecules (TAM).

TAM's are substances that can help slow down telomere shortening to maintain youth longer as well as lengthen critically short telomeres to rejuvenate cells.
TAM-818 is the most powerful and effective substance of all the existing Telomerase Activation Molecules. I hope that many of us will be able to delay aging for a more youthful and healthier life through my research with TAM-818.

This website (http://defytime.com) introduces my long term research achievements and anti-aging products to help maintain a healthier and younger
life for everyone.

I hope that many of you will regain health and happiness through our research and the Defytime products.

Date: November 27th, 2017

Sincerely

Bill Andrews, Ph.D.

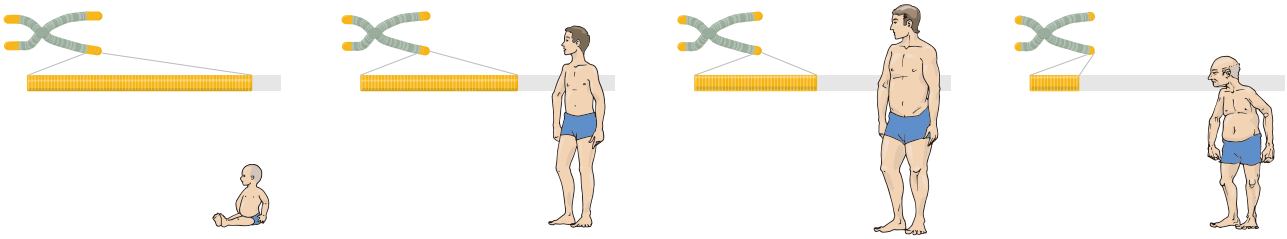

Bill Andrews, Ph.D. has worked in the biotech industry for more than over 30 years, focusing the last 20 years on finding ways to extend human lifespan through the intervention of telomere shortening in human cells.
Bill Andrews, Ph.D. earned his Ph.D. in Molecular and Population Genetics at the University of Georgia in 1981. He was a Senior Scientist at Armos Corporation and Codon Corporation, Director of Molecular Biology at Codon and at Geron Corporation, and Director of Technology Development at EOS Biosciences.

While Director of Molecular Biology at Geron Corporation from 1992 to 1997, Bill Andrews, Ph.D. was one of the principal discoverers of both the RNA and protein components of human telomerase and was awarded 2nd place as "National Inventor of the Year" in 1997 for this work. He is presently a named inventor on 50 U.S.-issued telomerase patents.*

* For details of patents, see "Appendix"

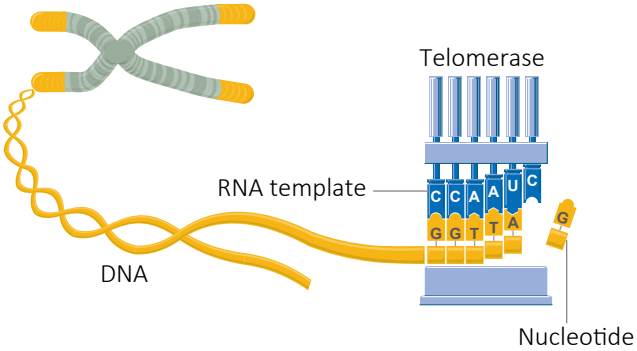

## *Human aging and telomere*

In humans, aging is an accumulation of changes over time,encompassing physical, psychological, and social change.
Reaction time may slow with age, while knowledge and wisdom may expand.
Aging is one of the greatest contributing risk factors for most human diseases, and of the roughly 150,000 people who die each day across the globe, about two thirds die from age-related causes.



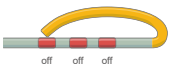
## *Telomerase*

Telomerase, also called telomere terminal transferase, is a ribonucleoprotein that adds the polynucleotide "TTAGGG" to the 3' end of telomeres, at the ends of eukaryotic chromosomes.
Telomerase is a reverse transcriptase enzyme that carries its own RNA molecule (with the pattern of "CCCAAUCCC" in vertebrates), which is used as a template for adding new bases onto the ends of telomeres.
It can replace the section of telomere that is lost in each cell division, so the chromosomes don't shorten.




Fold-back Model

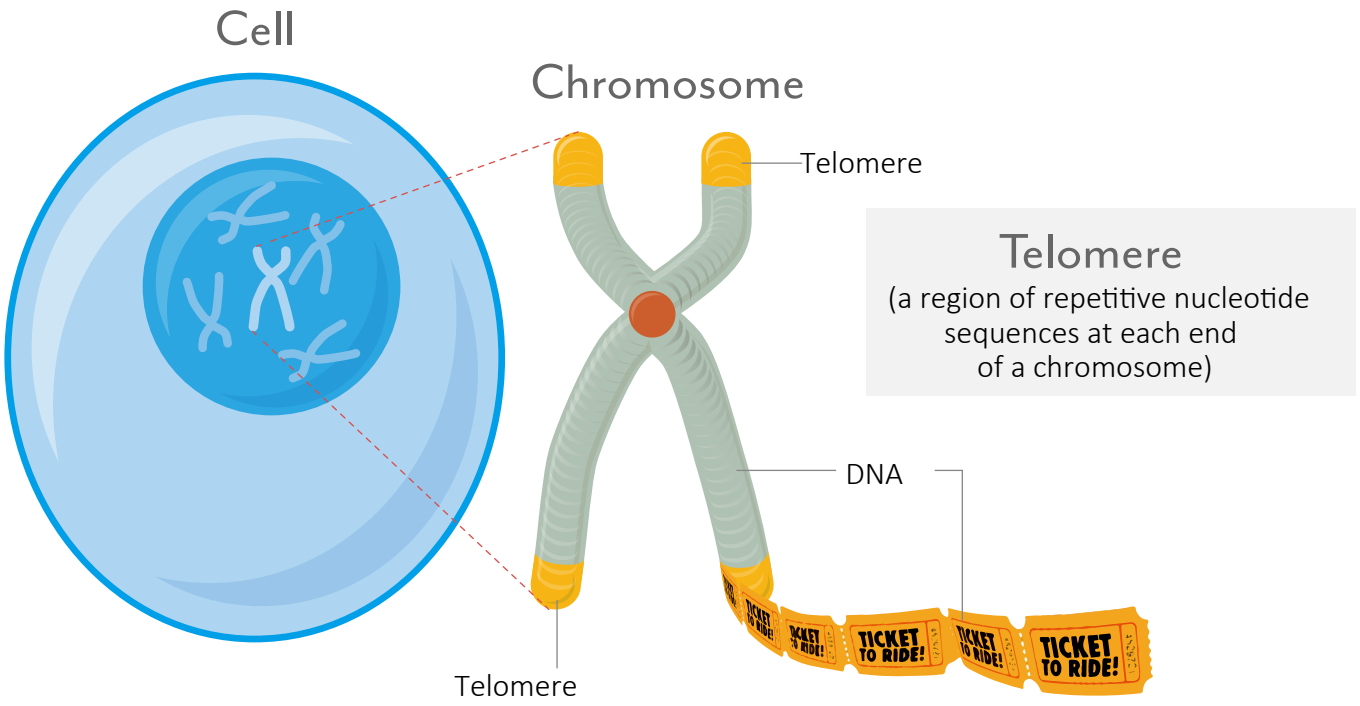

Fold back turns gene 1 off




Fold back turns gene 2 on


Short Telomere can't reach genes

"Telomeres are like the so-called ticket.
It will decrease each time to divide ....."

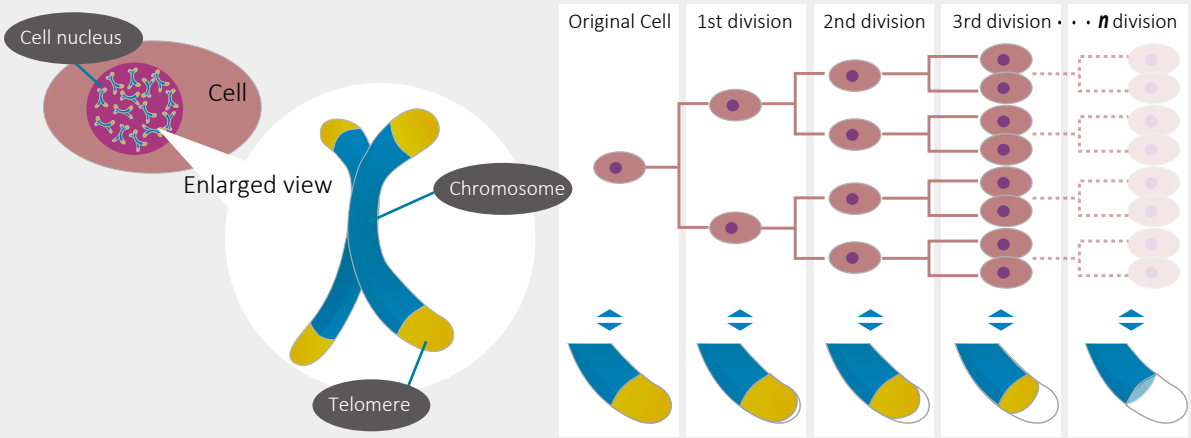



Telomeres are structures at the end of our chromosomes that shorten every time a human cell divides. Each time our cells divide and our chromosomes replicate, our telomeres become shorter. They shorten throughout our lifetime, and when they reach an average of about 5,000 nucleotides, our cells cannot divide any further, and we die of old age.

This problem is because of a telomerase enzyme deficiency syndrome, or TEDS that affects every one of us. If it weren't for lack of this enzyme our telomeres stay long and healthy. The length of an individual's telomeres is closely associated with their biological age and research suggests that control of telomere length has the potential to treat many diseases associated with aging.

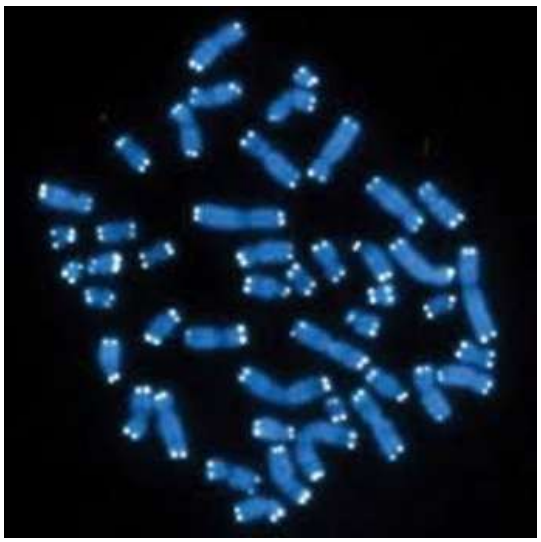
Only in the last thirty years science has made real progress in understanding the fundamental question of why we age and what can be done about it.
These discoveries have not been widely publicized -- yet -- and so most people are unaware of how close we are to curing the disease of aging once and for all.

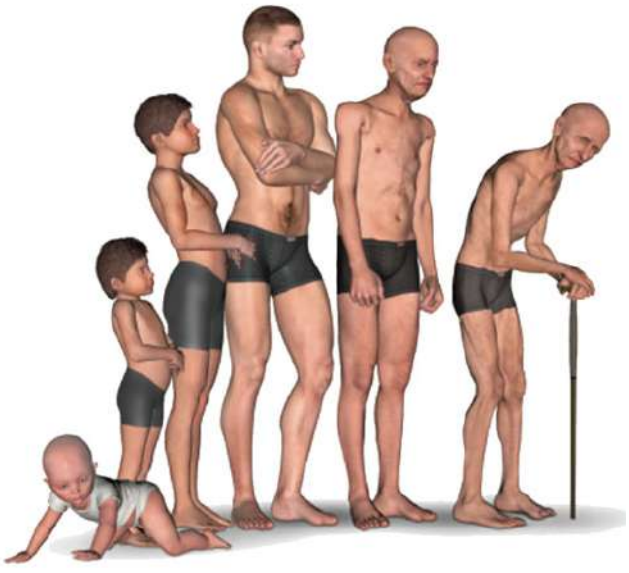
# Cause of Aging "Telomere"




Telomeres shorten each time the cell division, no longer evevtually cell division.

However, telomeres is required for normal chromosome segregation, since thereby shortening the time a cell divides, the telomeres become shorter than a certain length, cell viability occurs destabilization of chromosomal loss, as a result, it will appear a variety of aging of the body. In other words, the telomere is related to the fundamental factors of human aging.





# Diseases Caused by Telomere Shortening

| Disease name | Abbreviation |
|---|---|
| Alzheimer's disease | AD |
| Cancer | – |
| Acquired Immune Deficiency Syndrome | AIDS |
| Degenerative disk disease | DDD |
| Cardiovascular disease | CVD |
| Osteoarthritis | OA |
| Rheumatoid Arthritis | RA |
| Oseteoporosis | – |
| General immunodeficiency | – |
| Skin Aging | – |
| Age-related Macular Degeneration | AMD |
| Liver Cirrhosis | – |
| Muscular Dystrophy | – |
| Cell & Tissue Transplants | – |
| Chronic obstructive pulmonary disease | COPD |
| Hutchinson-Gilford Progeria Syndrome | HGPS |
| Dyskeratosis Congenita | DC |
| Idiopathic pulmonary fibrosis | IPF |
| Cri du Chat syndrome | – |
| Down Syndrome | DS |
| Fanconi's Anemia | FA |
| Tuberous Sclerosis | TS |
| Werner's Syndrome | – |
| Aging | – |

# Problems and solutions in Super-aging society

**The Problem:** *Expansion of medical expenses and nursing care expenses*

Elderly increase ▶ Increase in patients with Age-related diseases ▶ Increase in medical and nursing care expenses

In Japan of a super aging society, "National medical expenses + nursing care benefits" exceeded 50 trillion yen in FY 2014 and eventually reached 10% level of GDP.

**Challenges point:** *Reduction expansion of medical expenses and nursing care expenses*

Suppression of medical and nursing care expenses ▶ Prevention against Age-related diseases ▶ Increase healthy Elderlies

## ▶▶In other words, the solution is to extend "healthy life"

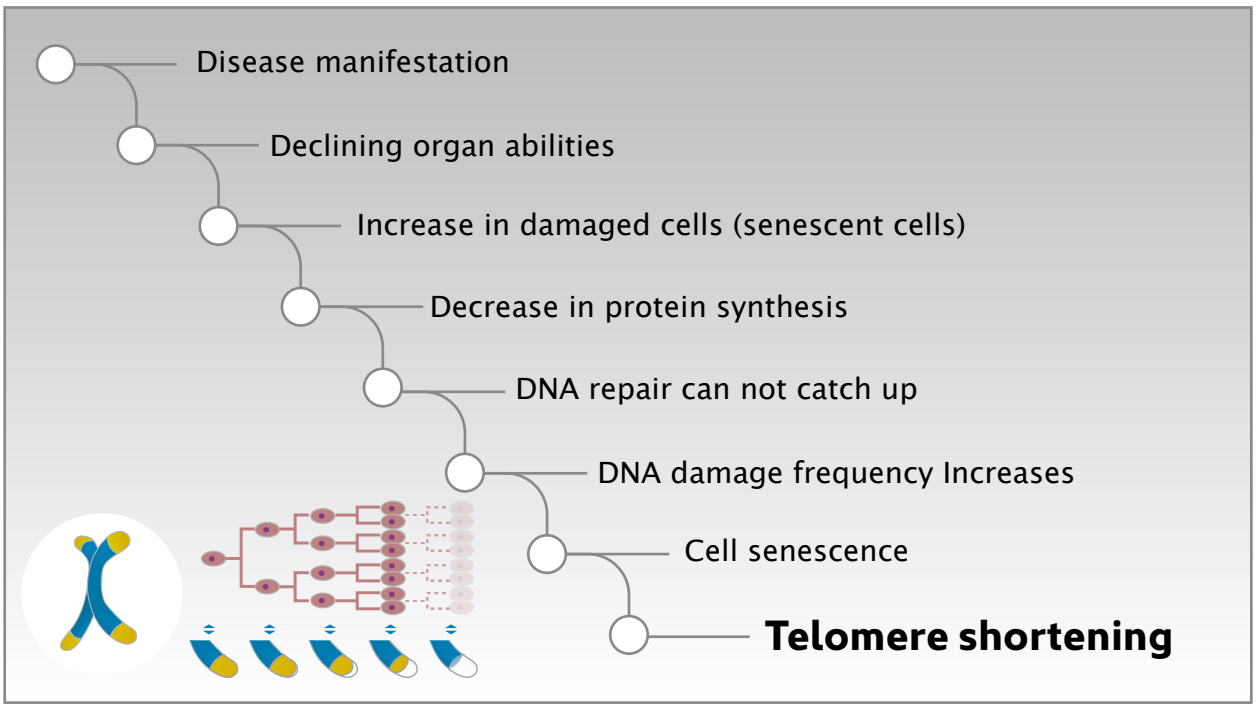
**Medicine = Diagnostic Medicine + Therapeutic Medicine + Preventive Medicine**

Regarding preventive medicine, it seems that the methodology is not fully developed yet compared with the other two.
In other words, there is a problem that it is not yet clear whether the scientific validity of what kind of object, and what kind of method is to be used for prevention of diseases is done.

*Chiba University Preventive Medicine Center WEB site Interview Feature 1
Excerpt from comments of "Chiba University Preventive Medicine Center Nagamori Professor"

**In preventive medicine, it is important to reaffirm the concept of "non-disease" .**

# Think about the beginning of 'Disease'.

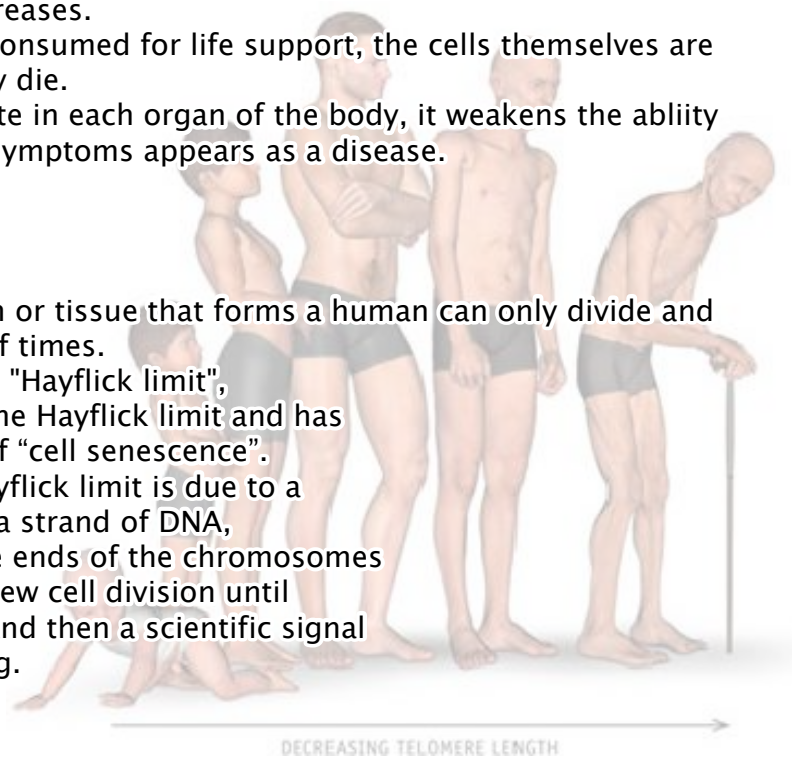


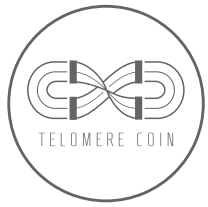

## Before symptoms of disease develop ...

Along with cell aging, the frequency of DNA damage occurrence overtakes the speed of DNA repair,and damage accumulates without being able to repair the DNA.
As a result, protein synthesis decreases.
When the intracellular protein is consumed for life support, the cells themselves are gradually damaged and eventually die.
When many cells reach such a state in each organ of the body, it weakens the abliity of the organ itself and gradually symptoms appears as a disease.

## Cell senescence

The division of cells in each organ or tissue that forms a human can only divide and proliferate for a limited number of times.
The limitation of division is called "Hayflick limit",
and the cells which has reached the Hayflick limit and has stopped to divide is in the state of “cell senescence”.
Empirical evidence shows that Hayflick limit is due to a replicative problem at the end of a strand of DNA,
which causes the telomeres at the ends of the chromosomes to get slightly shorter with each new cell division until they shorten to a critical length, and then a scientific signal is sent and the cells stops dividing.






# 5. TELOMERE TOTAL SOLUTION

# Business Model : 4 Category + One

With its mission always in mind, defytime intends to pursue long and healthy human life for all. We aspire to build products and services that improve the lives of billions of people globally. To pursue this, we combine and integrate several business approaches which are classified as follows: Telomere Analysis Technology, Telomere Support Advance, Telomere Activating Molecule, and Telomere Artificial Intelligence Robot. This section explains these businesses in more detail.


**Telomere Analysis Technology**


**Telomere Support Advance**


**Telomerase Activating Molecule**


**Telomere Lengthening Therapy**


**Telomere A. Intelligence Robot**

# Telomere Analysis Technology

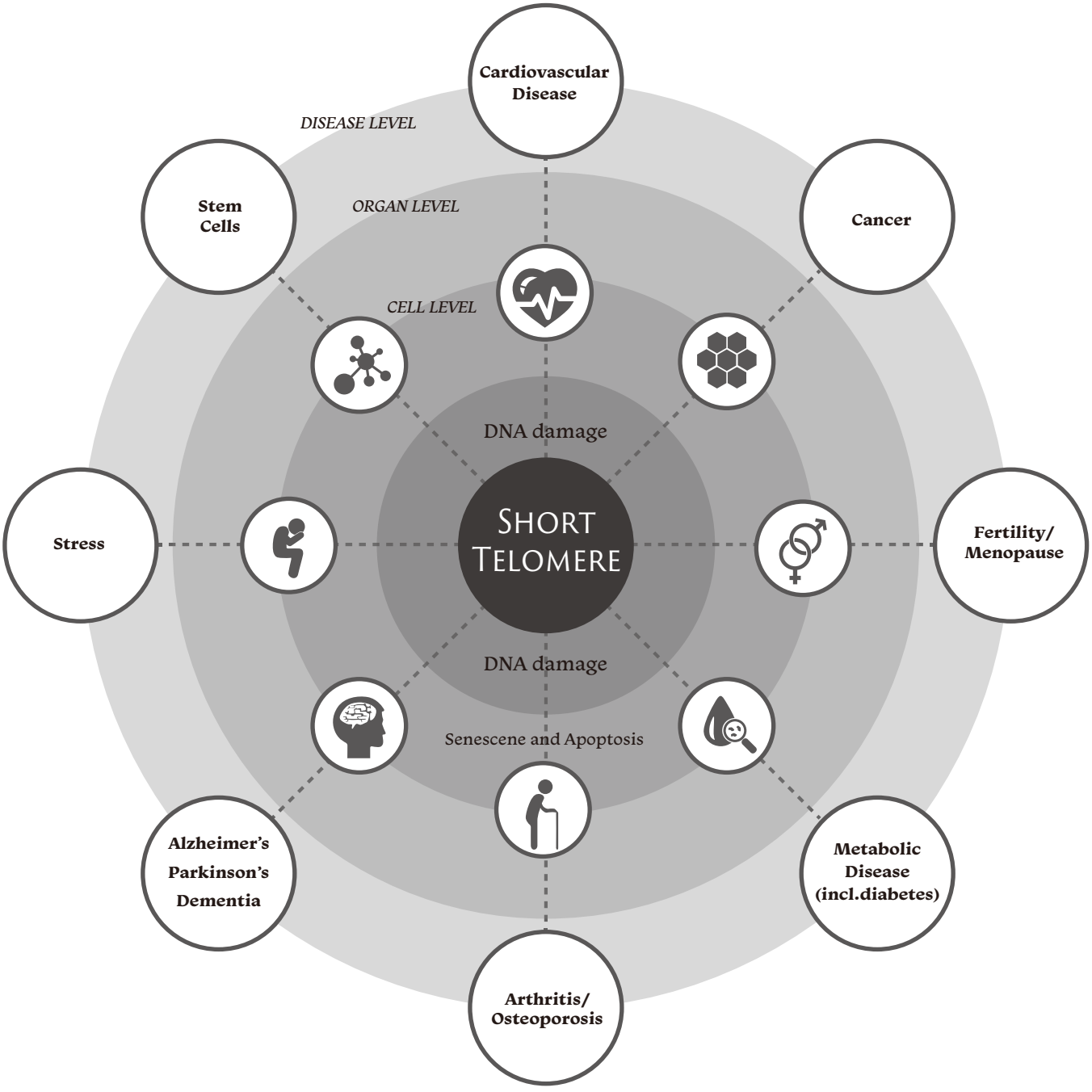
The 2009 Nobel Prize in Physiology and Medicine that was given to three scientists for their study on the telomere and its effect on human longevity, has attracted worldwide attention.
We take their discoveries into the next phase by building solutions that people can benefit from. Our first business is to analyze the condition of telomeres within each individual.


The "Telomere Analysis" done by blood test enables early prognosis not only for the individual's longevity but also for various diseases including cancer, hence is known to play a pivotal role as an independent biomarker.
This fact has attracted attention among healthcare professional community globally since it will greatly contribute the medical field.

Our telomere analysis does not merely estimate the average telomere length, but rather builds a histogram of tens of thousands of telomeres and reports the shortened telomeres in a comprehensive manner, including the proportion of short telomeres in chromosomes.
We employ specially developed algorithms to appropriately evaluate, such as stratifying the risk of age-related diseases and maps against the large-scale telomere database.


# Telomere Analysis Technology

## Diseases Caused by Telomere Shortening



# Telomere Analysis Technology

## Attention in the World !
## Telomere Analysis by “Blood Test”

**Medical institution**

Blood sampling
at a medical institution

Blood delivery
by collection kit

**Analytical center**

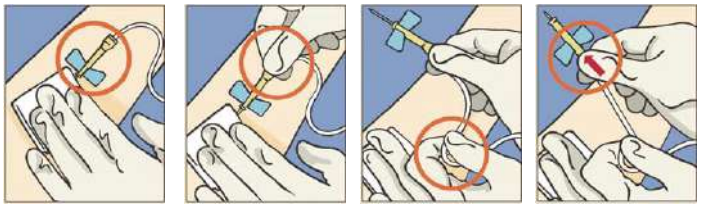

Telomere analysis
from white blood cells


Analysis result feedback
from analysis center


Explanation of analysis
results by doctor

**Collection kit**

**Blood sampling**



# Telomere Analysis Technology

# Telomere Analysis Technology


ts report Sample code: ESLL008083 | 14-07-2017

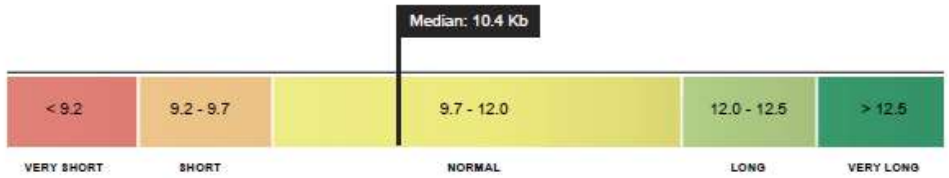
Questions?
Contact your physician for further interpretation.

Please record your report code for future measurements. Code: ESLL008083

## Your telomere length

dian Telomere Length: 10.4 Kb

Your median telomere length is estimated to be normal compared to Life Length's database population.

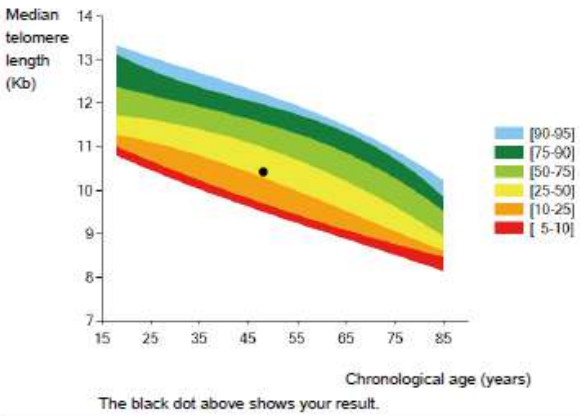



Median Telomere Length (MTL) = 10.4 ± 0.2 Kb

Average Telomere Length = 12.0 Kb

The ranges on this graph are dynamic and based on your age.

## 2. Median telomere length – Comparison by age band and percentiles




The black dot above shows your result.

This graph shows how your median telomere length compares with other people your age.

Each color band represents a range of percentiles of the control database. It is therefore best if your result falls into one of the upper bands.

According to your result, you fall into the 31 percentile, meaning that 31% of people your age have a shorter median telomere length.

## 3. Your estimated biological age

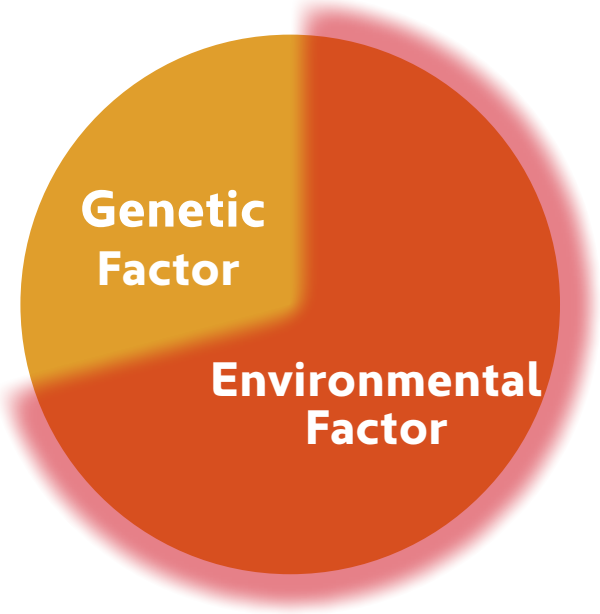
Estimated Biological Age: 50.7 years old
Chronological Age: 48.5 years old

www.lifelength.com | info@lifelength.com 4

# Telomere Support Advance

## Environmental factors have a greater influence than genetic factors.

With the understanding that it is important to keep telomeres long for a long and healthy life, one should realize that telomere length is affected by a number of factors. Genetics plays a partial role in determining the telomere length, and Environmental factors are known to affect greatly the pace of telomere shortening.





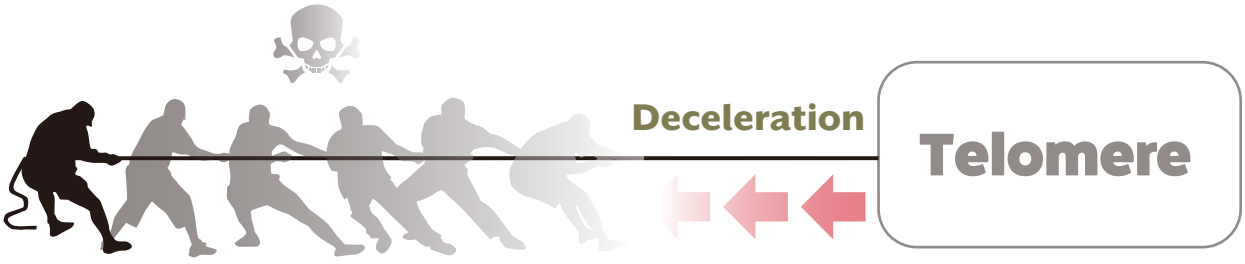
Subsequent environmental factors have a greater influence on factors that determine telomere length than genetic factors.

# TSA Telomere Support Advance

In other words, by improving "environmental factors", we can reduce the acceleration of telomere shortening.

While there is not much one can do to the genetics, environmental factors may be controlled by lifestyle choices and proper medical treatments.

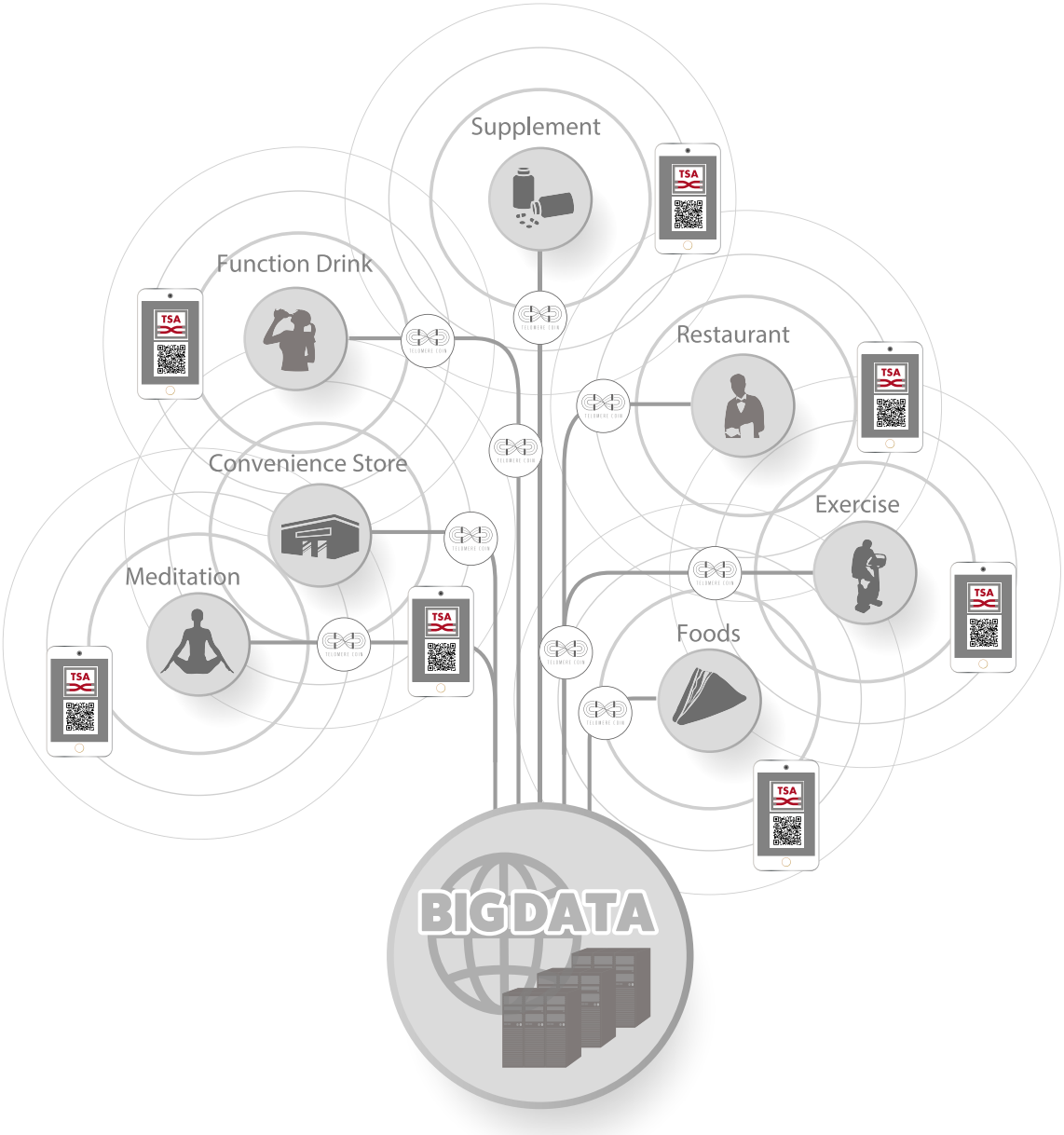

- Smoking
- Sedentary lifestyle
- Undreated depression
- No weight control
- Lack of sleep
- Pessimistio
- Accumulating stress




- Quit smoking
- Ingest antioxidant
- Ingest omega-3 fatty acid
- Ingest vitamin D3
- Take enough sleep
- Inprove diet
- Do not accumulare stress
- Do not be pessimistic and depressed

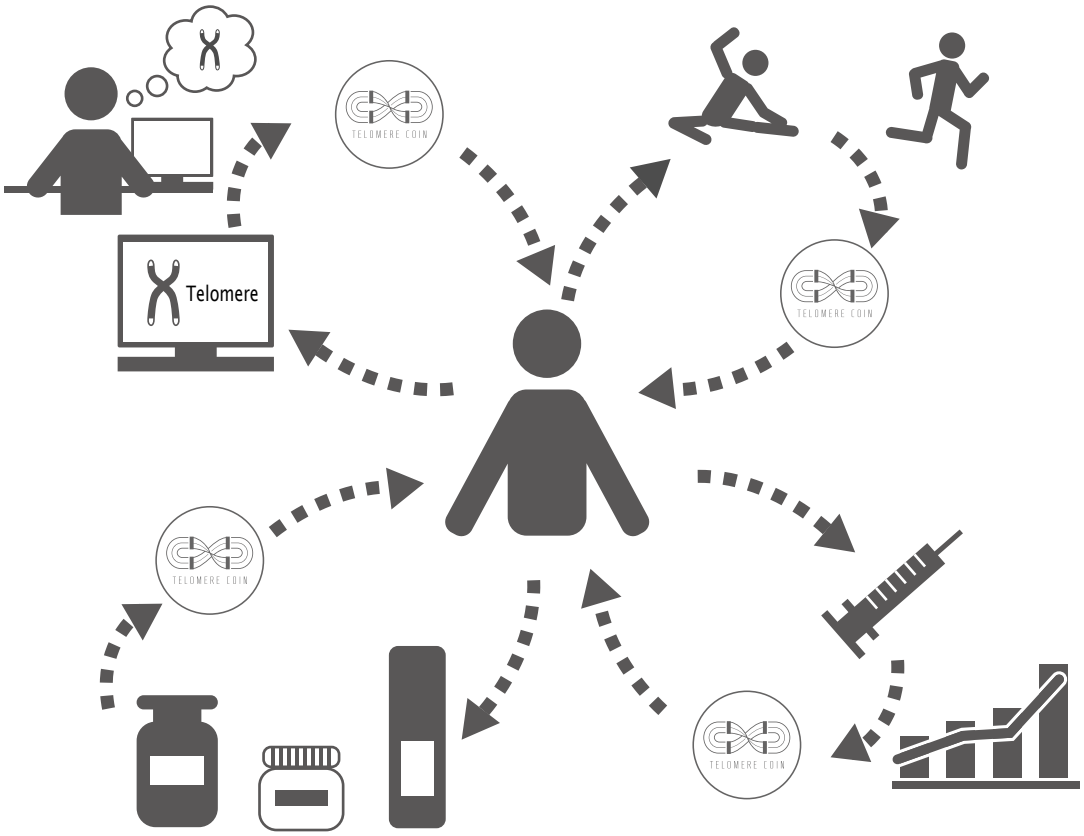
# Telomere Support Advance

Telomere Support Advance is a set of services designed to guide individuals towards better control of Environmental Factors to reduce the acceleration of telomere shortening. A smartphone app development is underway in order to bring this control in the hands of the individuals themselves.



# Telomere Support Advance

## Telomere Point System




### Telomere Total Solution Point System

With Telomere Points, we are incentivizing you to stay young and healthy!

TELOMERE POINT

We work with various companies who want to reward you for staying young and healthy, thereby contributing to healthier human life and reduced healthcare costs, by introducing an app with scoring and point systems.

TELOMERE POINT

This is different from coin mining as is popular with BitCoins for example. Our plan is, by earning and accumulating points, you can redeem to exchange for Telomere Coins!

# Telomerase Activating Molecule

## "TAM" : Bill Andrews, Ph.D.'s Greatest Invention

"Telomerase Activating Molecule" is a name of a substance that Bill's team has discovered and patented. It is a molecule that induces and activates telomerase. Taken after the name of this molecule, we have branded as "TAM" our product lineup designed to provide telomerase activating effect on human cells (more on this on the next page).
Our plan is to launch the TAM-fortified products in various categories, such as Skin Cream, Beauty Serum, Oral Spray, and Supplements. We are working hard on developing even more innovative products containing TAM.

Our sales channel is primarily direct, using web-based e-commerce as the sales platform. We are currently evaluating and discussing with several international distributors for possible distribution engagement. We are also evaluating and discussing with clinics and salons as possible sales channels. Product availability among different nations may vary depending on such factors as regulatory approvals and customs regulation.

On the page 32 and 33, we present the results of the clinical test on or TAM skin cream product, conducted by Abich, S.r.l., a world-renowned clinical research organization.

## TAM Product Lineup


defytime TAA cream


defytime theFirst


defytime theFirst PREMIUM


defytime EYE FILLER PATCH


defytime TAM Spray

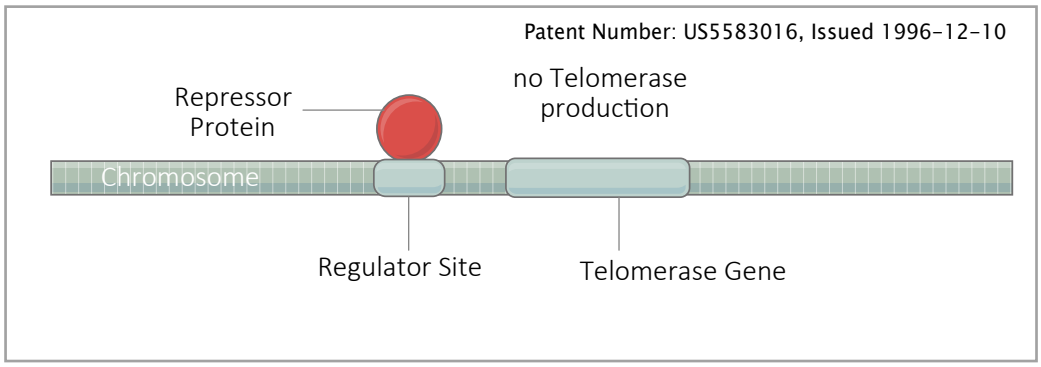
defytime TAM Capsules

# Telomerase Activating Molecule

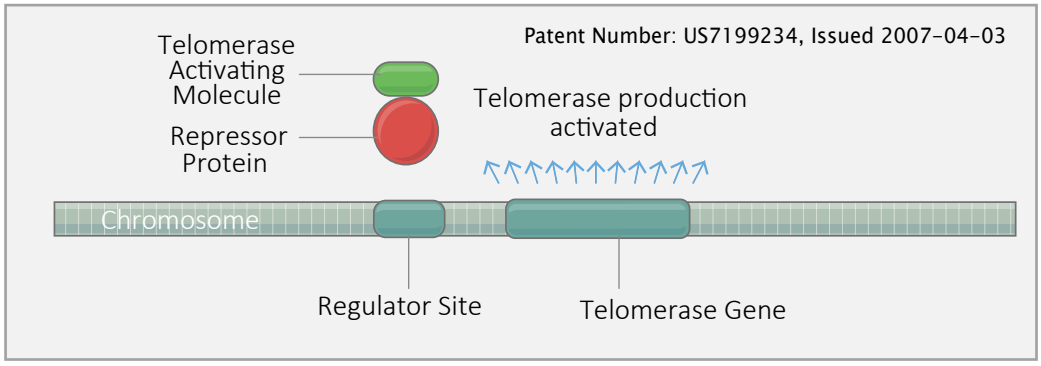
## How Telomerase Activating Molecule Helps Fight Aging

It had been known but considered inevitable, that the shortening of telomeres in human cells is the primary cause of aging.It has been subsequently discovered that there is a substance which can prevent such telomere shortening, called Telomerase. Telomerase is an enzyme that can slow, or even stop the telomere shortening process.

Further, it has been discovered that it is not the lack of telomerase within human cells that allows cells to age, but rather there is another substance, a type of protein, that prevents telomerase from working the anti-shortening effect. That protein, is called Repressor Protein.




It was by Dr. Bill Andrews who thought and went on to research for finding a way to keep the Repressor away from telomerase gene, so that the telomerase is kept active in its job of maintaining telomere length.



# TAM Telomerase Activating Molecule

## *Evidence*

**ABICH S.r.l.**
Biological and Chemical Analysis
Toxicology, Research and Services

Report No: REL/0701/2014/CLI/SAB
REL/0702/2014/CLI/SAB
Version: English
Page: 1 of 66

| N° Vol. | Vol. Code | Age | N° Vol. | Vol. Code | Age |
|---|---|---|---|---|---|
| 1 | adci526 | 41 | 51 | lode61 | 46 |
| 2 | ancon12 | 48 | 52 | loma2 | 51 |
| 3 | aniz367 | 50 | 53 | lopo479 | 63 |
| 4 | anla484 | 39 | 54 | lotu144 | 57 |
| 5 | anla7 | 47 | 55 | lual476 | 54 |
| 6 | anpan13 | 48 | 56 | lubel22 | 56 |
| 7 | anpe409 | 52 | 57 | lude228 | 45 |
| 8 | anpe440 | 60 | 58 | ludi5 | 47 |
| 9 | ansa120 | 60 | 59 | lufiu18 | 59 |
| 10 | arsu460 | 54 | 60 | luge86 | 55 |
| 11 | bami523 | 61 | 61 | lupr276 | 45 |
| 12 | brti103 | 57 | 62 | luri265 | 46 |
| 13 | cabo441 | 54 | 63 | lute520 | 60 |
| 14 | caca55 | 58 | 64 | lutuc9 | 60 |
| 15 | cama505 | 41 | 65 | maal258 | 54 |
| 16 | caro420 | 37 | 66 | maap492 | 45 |
| 17 | chce155 | 48 | 67 | maca268 | 55 |
| 18 | clbe483 | 39 | 68 | maca64 | 45 |
| 19 | criquat14 | 56 | 69 | macat1 | 61 |
| 20 | crta129 | 39 | 70 | made135 | 59 |
| 21 | dabe206 | 47 | 71 | malu257 | 48 |
| 22 | dalo334 | 47 | 72 | mama444 | 46 |
| 23 | debo349 | 58 | 73 | mela164 | 42 |
| 24 | dima287 | 48 | 74 | migi167 | 43 |
| 25 | dipi365 | 59 | 75 | miro432 | 52 |
| 26 | doca447 | 53 | 76 | mobe354 | 53 |
| 27 | dogi445 | 45 | 77 | more267 | 50 |
| 28 | elca122 | 40 | 78 | nagr443 | 51 |
| 29 | eliv342 | 55 | 79 | nama501 | 50 |
| 30 | eman525 | 50 | 80 | paba487 | 36 |
| 31 | esa8 | 47 | 81 | pamu418 | 51 |
| 32 | fead421 | 58 | 82 | pavi307 | 59 |
| 33 | fibl275 | 62 | 83 | pivi463 | 65 |
| 34 | fipa355 | 40 | 84 | rast348 | 54 |
| 35 | frga90 | 51 | 85 | ricl480 | 57 |
| 36 | frma177 | 60 | 86 | riia62 | 65 |
| 37 | gaam497 | 53 | 87 | roca128 | 47 |
| 38 | gabr259 | 48 | 88 | roia359 | 58 |
| 39 | Gati439 | 47 | 89 | romi370 | 65 |
| 40 | gica434 | 39 | 90 | rote181 | 62 |
| 41 | giga455 | 51 | 91 | rova262 | 51 |
| 42 | gigr222 | 49 | 92 | saca272 | 45 |
| 43 | gima500 | 58 | 93 | saca38 | 36 |
| 44 | gipi527 | 59 | 94 | sagi270 | 45 |
| 45 | giufi20 | 53 | 95 | sapo213 | 55 |
| 46 | kadi493 | 38 | 96 | sigi469 | 48 |
| 47 | lalom4 | 64 | 97 | tecri3 | 41 |
| 48 | lata251 | 49 | 98 | tiba281 | 52 |
| 49 | lili254 | 59 | 99 | tira309 | 48 |
| 50 | liva137 | 49 | 100 | vidi524 | 55 |
| MEAN | | | | | 52 |

Final Report (Long Term Test)
IN VIVO evaluation of the anti-wrinkle, elasticizing and firming efficacy of a cosmetic product on 100 volunteers

PANEL RECRUITMENT

Characteristics of the panel

The study was performed on 100 healthy female volunteers, aged from 36 to 65 , who were identified from the database of volunteers of the Abich Clinical and Cosmetological Trials Center, and who were evaluated as appropriate for participation in the study and not suffering from diseases to the skin areas to treat.

Before the beginning of the study each volunteer has read and signed an informative form (informed consent form, C.I.). Each volunteers has had the opportunity to ask any kind of questions regarding the study to which was given an exhaustive answer.

The volunteer was explained the aim of the test, the procedure and the possible risks related.

Only after signature of the informed consent the participation in the study was permitted.

Only volunteers in good general health conditions were included in the study.

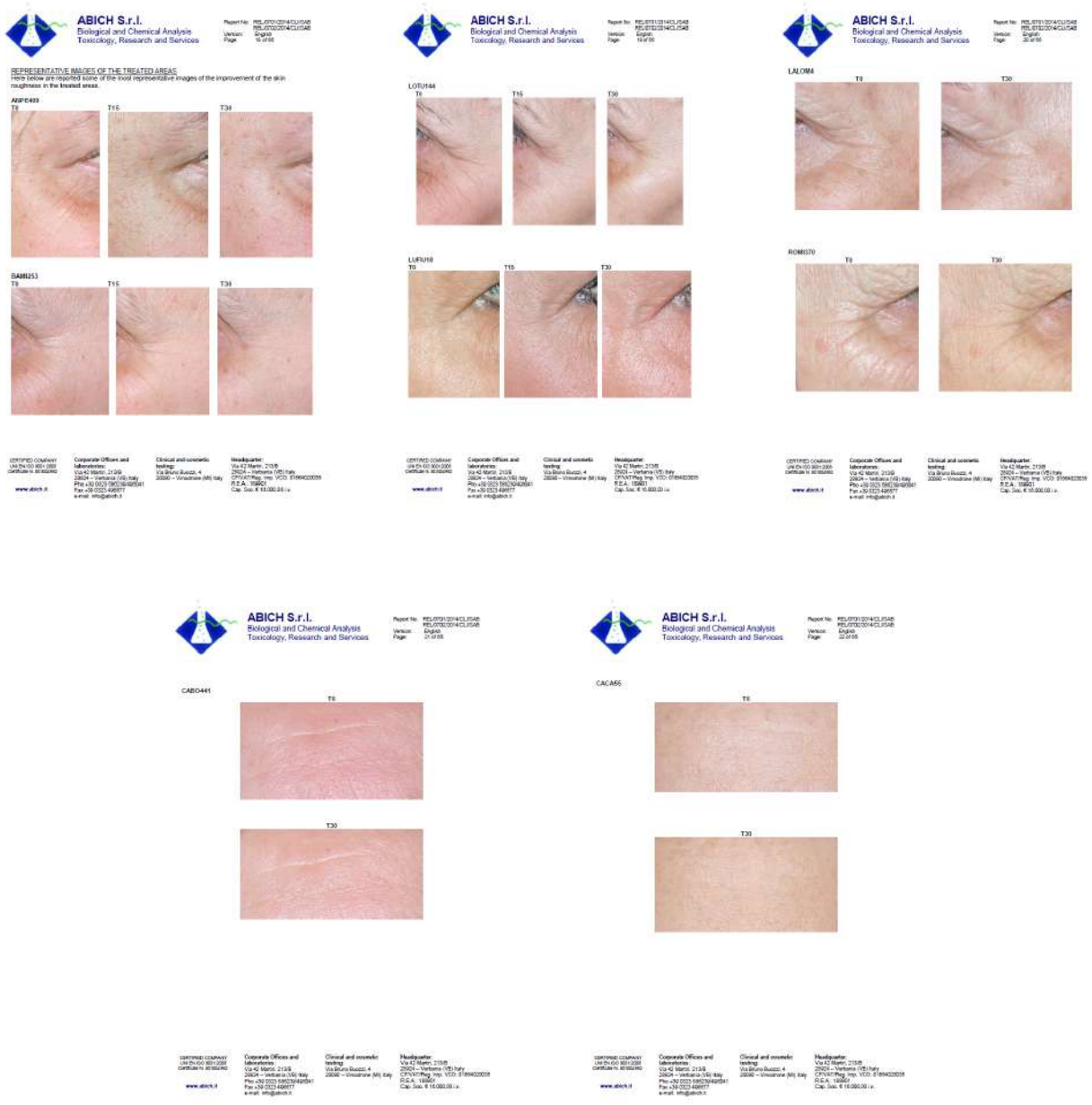
The originals of these informed consent forms were archived at the Abich Cosmetic Lab. All subjects signed a consent allowing to treat personal data according to the Italian law (privacy. D.Lgs 196/2003).

# TAM Telomerase Activating Molecule

## *Evidence* *(continued)*

REPRESENTATIVE IMAGES OF THE TREATED AREAS

Here below are reported some of the most representative images of the improvement of the skin roughness in the treated areas.



# TAR Telomere A. Intelligence Robot

The term "TAR" refers to the group of our service offerings including medical database and artificial intelligence robot terminals to facilitate interactions between patients and healthcare professionals. Under the current plan it comprises of the following, but additional capabilities may be added from time to time.

We develop and deploy smart robots at the point of contact for patients.
Those robots are equipped with access to the master database and with Artificial Intelligence, such that through interactions between the robot and the patient, patient data is gathered and appended to the medical database.
Such data include but not limited to, information such as patient's vital data set, medical history, prescriptions, treatment histories. The data is stored on the cloud using block chain technology to ensure information security.
Each robot serves as an intelligent counseling robot to speak with patients, assisting the roles of qualified medical professionals.

The patients, doctors, medical institutions and pharmacies interact with the master database residing in the Cloud that are secured by block chain technology, and will have access to such database.
The type, format, and granularity of accessible data will depend of the credentials and authorization levels of the user requesting such data.

Plans are underway whereby we connect, collect and integrate with the master database health-related data from wearable health devices for enhanced data dimension.

When a patient or a healthcare professional logs on and access the data upon proper authentication means, information of the patient in question can be retrieved, and can be appended where appropriate.

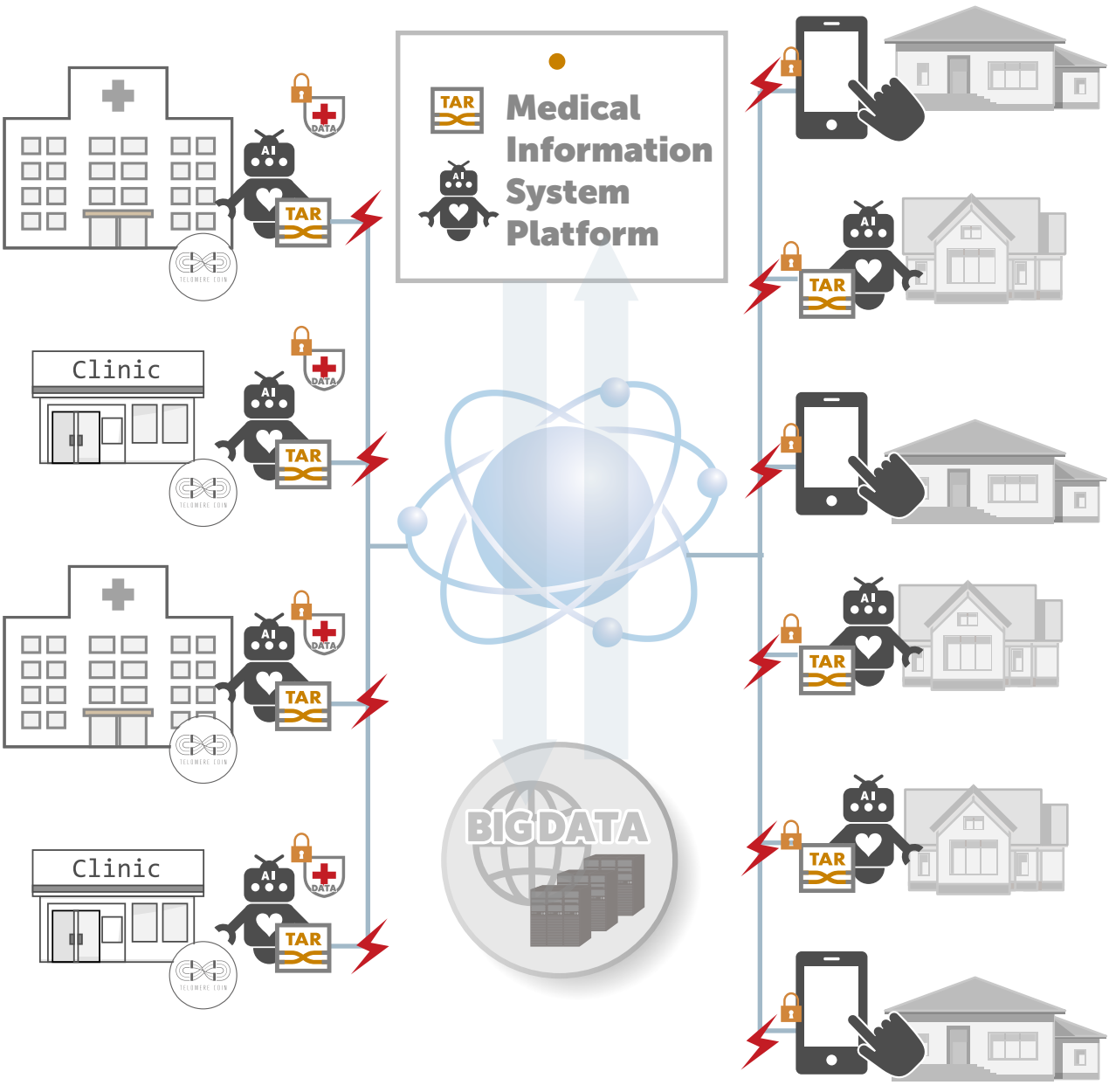
Under this system, patients will have with confidence more control over their medical records while maintaining data availability to caregivers when and where needed, enhancing their ability to provide effective diagnostics, treatments, and prescriptions.

Further, we plan to provide APIs (Application Programming Interfaces) for connecting our database to other systems where needed, for the purpose of integrating with any medical record system such as that of insurance companies and medical institutions.

Our master database is constructed with the underlying knowledge and our scientific discovery on how human telomeres play a vital role in one's health. It is for this reason that our database will function as the basis of total life management information repository and intelligence toward the goal of optimizing and maximizing human health and wellness.

# Telomere A. Intelligence Robot

Maintain availability and provide effective diagnosis, treatment, prescription at any time!



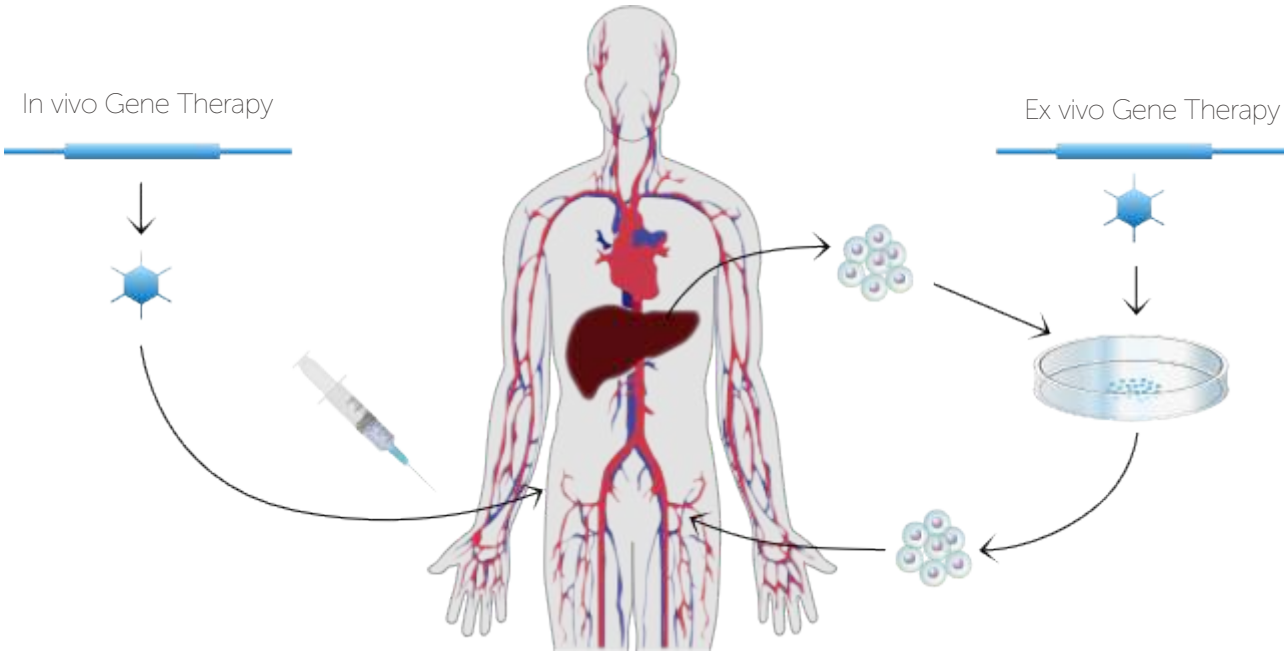
# Telomere Lengthening Therapy

**TXY payment Only**

## Gene therapy

In 1990, gene therapy was carried out for the first time in the world, the basic technologies that had been developed over many years bore fruit and since 2011, many successful cases have been successively published in various countries. Soon, we will be in an age where gene therapy is widely practiced. Gene therapy is defined* as introducing genes or cells incorporating genes into the body with the objective of treating disease.

*Notification: March 27 2002 (Notification 1 for 2002 of the Ministry of Education, Culture, Sports, Science and Technology/Ministry of Health Labour and Welfare) Complete revision: December 28 2004 Partial revision: December 1 2008



# Telomere Lengthening Therapy

**TXY payment Only**

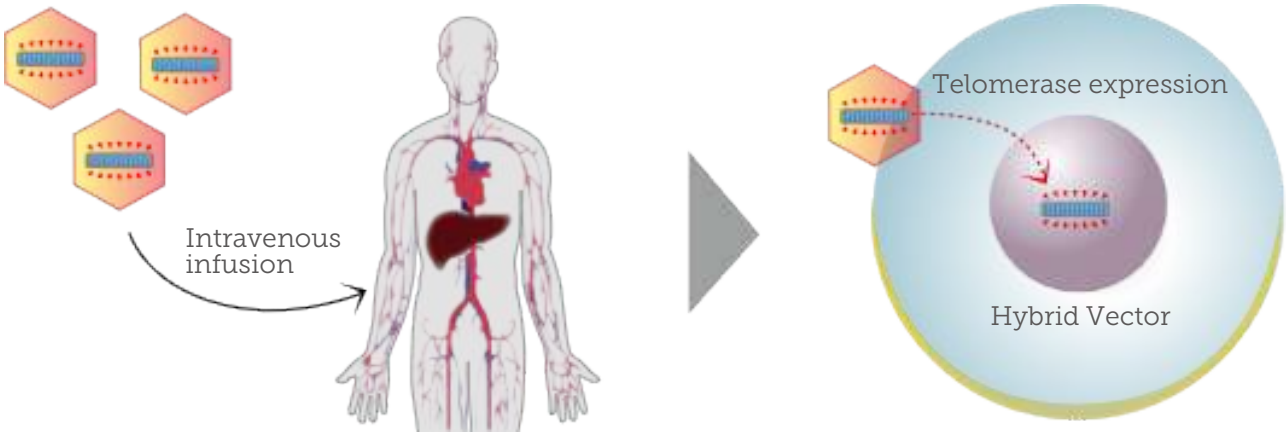
## Telomerase induction, Hybrid Vector Solution

In defytime Telomere Lengthening Therapy, a hybrid vector combining the activated human telomerase gene and AAV is made and cultured. The hybrid vector is basically intravenously injected* so that it can be transported to target tissue and delivered into cells via the blood. In the cells, the hybrid vector causes telomerase to be expressed, which restores shortened telomeres.

Cloning Activated Human Telomerase Gene

Adeno-Associated Virus (AAV) Viral Vector

Hybrid Vector




*The administration method may be changed to suit the patient (target tissue)

# Telomere Lengthening Therapy

**TXY payment Only**

## TLT Annual Plan

Clinical Trial Plan announcement on August 18, 2019

2019–2020: Clinical Trials in Colombia / Vanuatu

2021: VVIP treatment center in Japan and China

Maximum number of patients per year

2021: 12 patients

2022: 12 patients

2023: 12 patients

2024: 24 patients

2025: 24 patients

2026: 24 patients

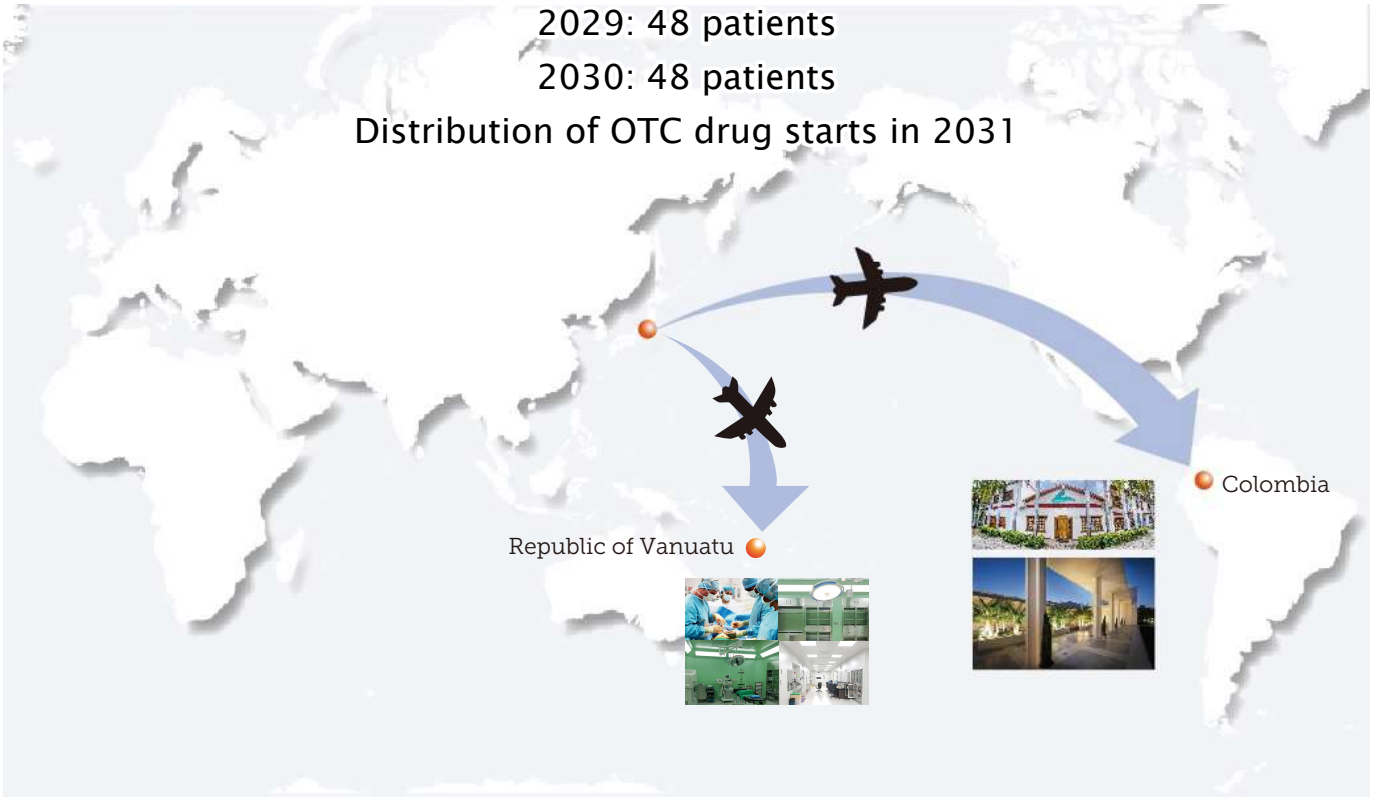
2027: 48 patients

2028: 48 patients

2029: 48 patients

2030: 48 patients

Distribution of OTC drug starts in 2031



# Telomere Lengthening Therapy

**TXY payment Only**

## Our Clinics







Republic of Vanuatu



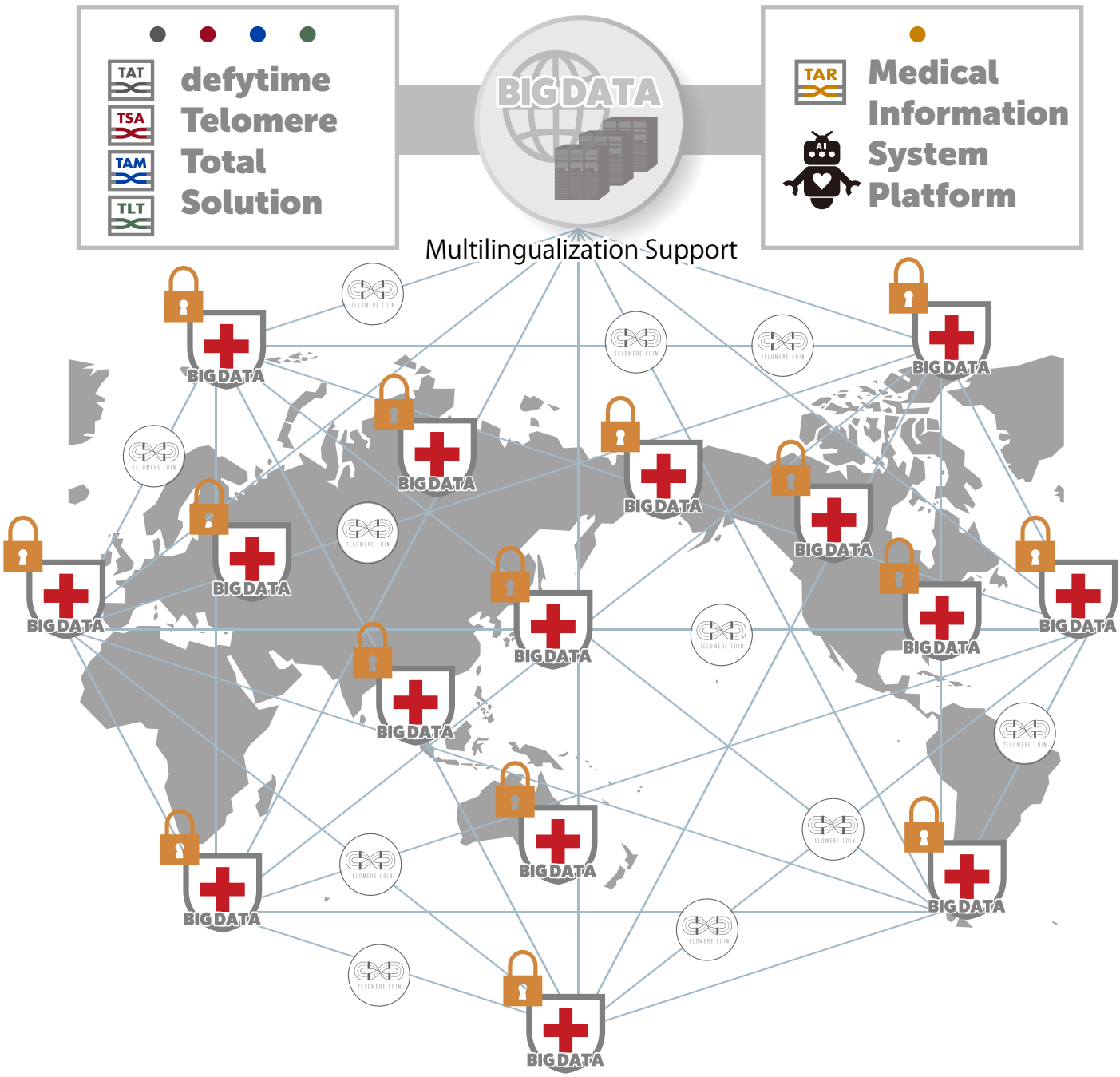


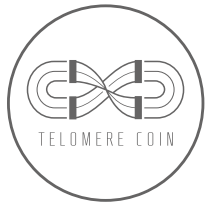

MediHelp in Cartagena, Colombia is the location where the procedure will take place.

Colombia

# defytime Telomere Total Solution

## Medical AI Solution






# 6. ABOUT TELOMERE COIN TXY ™

# TECHNICAL SPECIFICATION

## *Litecoin based Token*

Telomere Coins are created according to the Litecoin specifications of the blockchain. Exact information about our smart contracts will be added soon – we are working on it right now.

## *Safety of Funds*

Telomere employees do not have access to user wallets. Funds raised by campaigns and stored in their unique wallets are controlled by the smart contracts automatically.
After fundraising is completed, all funds are automatically transferred to the wallet that is specified by the campaign creator. Telomere employees do not have access to unique campaign wallets and cannot perform transfers from them.

Telomere Coins are generated and issued automatically as well, and only after the receipt of contributions to a campaign's contract, be it ETH, BTC, or USDT is confirmed.
This protects the issued Telomere Coins from fraud and backs all Telomere Coins with a real monetary value.

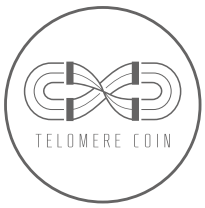
## *Users' Safety*

Only account owners have access to their wallets. Passwords to accounts are not stored on the site, with hashing used for fast login . Users can either store passwords to their wallets on the platform or delete them for security reasons. In this case, a user will have to enter the password to their wallet, which is not saved on the Telomere Coins platform, for each transfer and pledge.

## *Confidentiality*

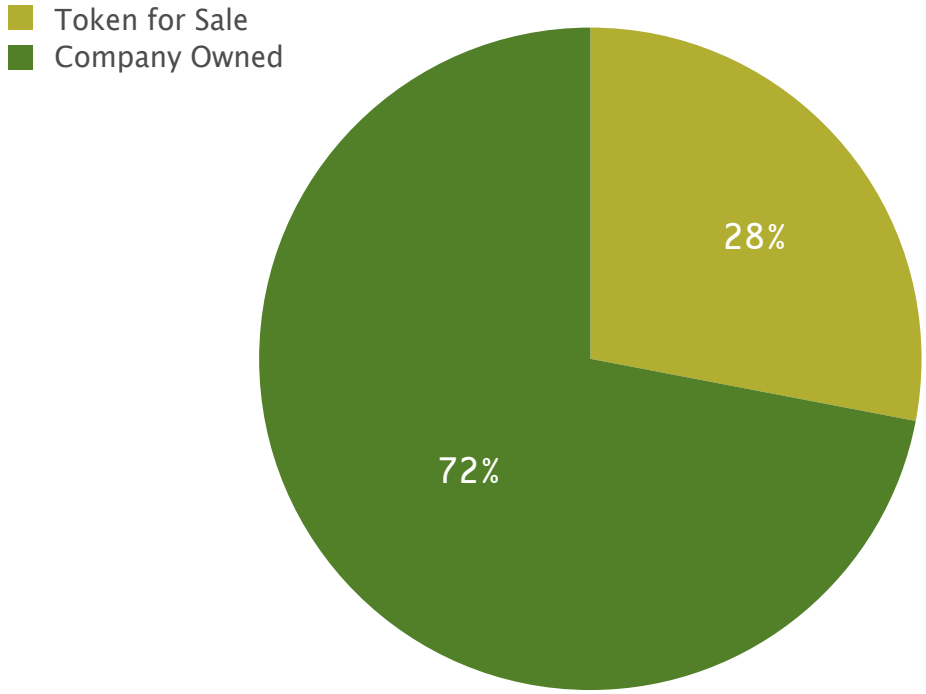
Transfers made by users are recorded in the system and encrypted. User wallets are also encrypted on the platform, and their association with user profiles is minimized as much as possible.

All personal user data, including passwords, emails, and wallet IDs, is encrypted.
This protects Telomere Coins users from hacking or information leaks.
Even in the worst case scenario, user data, passwords, and wallets will remain safe, since no access to them or money transfers from them is possible.

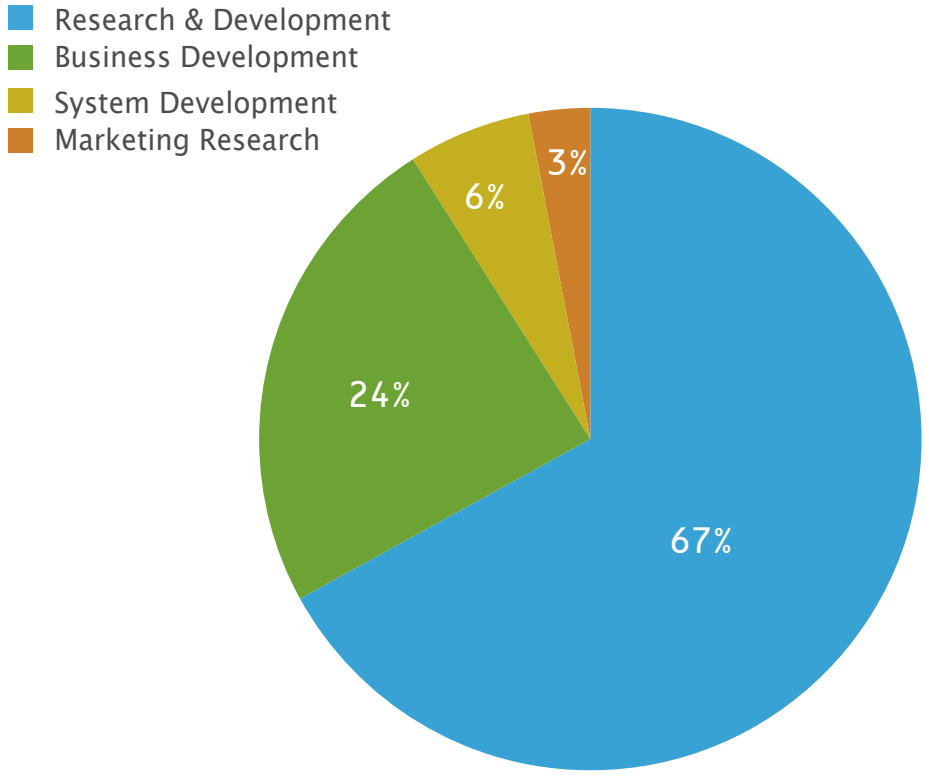


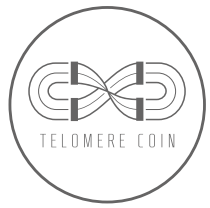

# 7. THE IEO PLAN

## Telomere Coin Issue Allocation




## Use of Funds Procured from Telomere Coin IEO

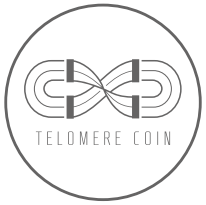





# 8. OUR OFFERINGS

# Telomere Coin Wallet Distribution method

| Service Price | ¥ $ | ₿ | |
|---|---|---|---|
| TAT $200-2,000 | 0% OFF | 0-10% OFF | 10-30% OFF |
| TSA $20-200 | 0% OFF | 0-10% OFF | 10-30% OFF |
| TAM $200-2,000 | 0% OFF | 0-10% OFF | 10-30% OFF |
| TAR $10-1,000 | 0% OFF | 0-10% OFF | 10-30% OFF |
| TLT $4,000,000 | Accepts TXY Only | | 0% OFF |




# 9. RISK FACTORS

# DISCLAIMER

This document is for information purposes only, and is not an offer or a call to sell stocks or securities on the Telomere Coins platform, or that of any other related or associated company.

## *Telomere Coin are not securities*

User acknowledges, understands, and agrees that Telomere Coins are not securities and are not registered with any government entity as a security, and shall not be considered as such. User acknowledges, understands, and agrees that ownership of Telomere Coins does not grant the User the right to receive profits, income, or other payments or returns arising from the acquisition, holding, management or disposal of, the exercise of, the redemption of, or the expiry of, any right, interest, title or benefit in the Telomere Coins or Telomere Coins Platform or any other Telomere Coins property, whole or in part.

## *Absence of guarantees of income or profit*

There is no guarantee that Telomere Coins will grow in value. There are no guarantees that the price of Telomere Coins will not decrease, including significantly, due to some unforeseen events, or events over which the developers have no control, or because of force majeure circumstances.

## *Risks associated with Litecoin*

Telomere Coins will be issued on the Litecoin blockchain. Therefore, any failure or malfunctioning of the Litecoin protocol may lead to the trading network of Telomere Coins not working as expected.

## *Regulatory uncertainty*

Blockchain technologies are subject to supervision and control by various regulatory bodies around the world.
Telomere Coins may fall under one or more requests or actions on their part, including but not limited to restrictions imposed on the use or possession of digital tokens such as Telomere Coins, which may slow or limit the functionality or repurchase of Telomere Coins in the future. Telomere Coins are not an investment

Telomere Coins are not official or legally binding investments of any kind. In case of unforeseen circumstances, the objectives stated in this document may be changed. Despite the fact that we intend to reach all goals described in this document, all persons and parties involved in the purchase of Telomere Coins do so at their own risk.

# DISCLAIMER *(continued)*

## *Quantum computers*

Technical innovations, like the development of quantum computers, may pose a danger to cryptocurrencies, including Telomere Coins.

## *Risk of losing funds*

Funds collected in fundraising are in no way insured. If they are lost or lose their value, there is no private or public insurance representative that buyers can reach out to.

## *Returning funds*

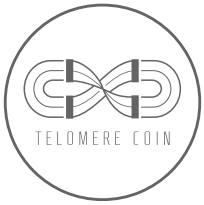
If a campaign does not end successfully, or is canceled by its creator, or by moderators, Telomere Coins are returned to the wallets of those users who transferred funds to the wallet of the campaign. If the user made their payment in a fiat currency (USD, EUR, RUR, or any other), the funds are returned to their wallet inside the PUBLIC FUND system. The user can withdraw this or use them to participate in any other campaign launched on the Telomere Coins platform.

## *Risks of using new technologies*

Telomere Coins are a new and relatively untested technology. In addition to the risks mentioned in this document, there are certain additional risks that the team of the Telomere Coins cannot foresee. These risks may manifest themselves in other forms of risk than those specified herein.

## *Integration*

This Agreement constitutes the entire agreement between the parties with respect to the subject matter of this Contract. All previous agreements, discussions, presentations, warranties, and conditions are combined in this document. There are no warranties, representations, conditions, or agreements, express or implied, between the parties, except those explicitly stated in this Agreement. This Agreement may be changed or amended only by a written document duly executed by the parties.




# 10. TEAM AND ADVISORS

### Bill Andrews, Ph.D.

***Chief Scientist/Chief Scientific Officer***

Dr. Bill Andrews is the President and CEO of Sierra Sciences. As a scientist, athlete and executive, he continually pushes the envelope and challenges convention. He has been featured in Popular Science, The Today Show and numerous documentaries on the topic of life extension including, most recently, the movie The Immortalists in which he co-stars with Aubrey de Grey.
Since 1981, Bill Andrews has focused on finding ways to extend the human lifespan and healthspan through telomere maintenance. As one of the principal discoverers of both the RNA and protein components of human telomerase, Dr. Andrews was awarded 2nd place as "National Inventor of the Year" in 1997. He earned his Ph.D. in Molecular and Population Genetics at the University of Georgia in 1981. He has served as Senior Scientist at Armos Corporation and Codon Corporation, Director of Molecular Biology at Berlex Biosciences and at Geron Corporation, and Director of Technology Development at EOS Biosciences. He is also a named inventor on over 50+ US issued patents on telomerase and author of numerous scientific research studies published in peer reviewed scientific journals.
Bill is also an avid ultra-marathon runner. Born December 10, 1951, he regularly competes in 100k and 100+ mile runs often finishing at the top of his age group. These grueling races have taken him all over the world to race in some of the most extreme environments, from Death Valley to the Himalayas. His running is presently featured in the movie The High.

### Takashi Nishihira

***Chairman of the Board***

Takashi Nishihira (Nisshi) is Director of Business Development and CEO of defytime Science Japan Ltd., a Asian marketing and trading company. In his 5 years of global marketing sales experience, he built excellent clients from the Asian markets and a large network in the Southeast Asia market. His management skills and understanding of the region adds tremendous value in making Defytime a world class anti-aging destination.

### Jonathan Greenwood

***President & CEO***

Jonathan Greenwood (Park) is Director of Business Development and CEO of Defytime Holdings Ltd., a Global marketing and trading company. After graduating from Architecture University, he became an entrepreneur between Antipodean and East Asia. In his 15 years global marketing sales experience, he built excellent clients from the Asian markets and a large network in the Southeast Asia market. His management skills and understanding of the region adds tremendous value in making Defytime & Sierra Science a world class anti-aging destination.

### Dr. Laura Briggs

***Telomere Researcher (a Partner Scientist)***

Laura Briggs received her B.S. degree in Nutrition in 1993 and her Ph.D. in Environmental Science and Health in 2000 from the University of Nevada, Reno. After a one-year post-doctoral position at UNR she joined Sierra Sciences in 2001.
In addition to coordinating research and development at Sierra Sciences, Dr. Briggs is also currently serving as the biology Lab Coordinator for Truckee Meadows Community College (TMCC) and has collaborated on research projects atthe V.A. Medical Center in Reno, Nevada.

### Lancer Brown

***Telomere Researcher (a Partner Scientist)***

Lancer Brown received his B.S. and M.S. degrees in Biotechnology in 2003 from the University of Nevada, Reno and was one of three students in the inaugural advanced BS/MS Biotechnology Program. He distinguished himself by being the first student to complete the program. Lancer came to Sierra Sciences as an intern while completing his degree.
Following graduation, he joined Sierra Sciences full-time where he has proven to have remarkable ability to engineergenes and DNA. He has recently been promoted to program director of screening.

### Federico Gaeta, Ph.D.

***Telomere Researcher (a Partner Scientist)***

Dr. Gaeta identified the first potent, small molecule, inhibitors of human telomerase. He is the sole inventor of universal therapeutic cancer vaccine technologies based on telomerase, currently being evaluated in human clinical trials. Dr. Gaeta is an experienced executive with major pharmaceutical and biotechnology companies in the area of new drug discovery and development.

### Dr. Shin D.Y.

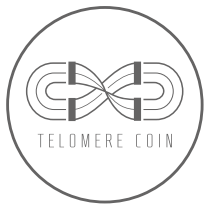
***Telomere Researcher (a Partner Scientist)***

Dr. Shin provided first evidence that p53 tumor suppressor gene can induce senescence in human tumor cells, which was published on PNAS at 1997, which was his first paper as a PI. By this paper, he suggested a novel cancer therapy to induce senescence in human tumors. He also interested in senescence of articular chondrocyte, and found a novel signaling pathway of chondrocyte senescence, which is mediated by p38MAPK and regulated by immune suppressants, such as CsA and FK506. He recently focused on novel genes, which are screened by a functional cDNA expression cloning strategy, that regulate cell death and senescence. These studies give an insight to regulation of aging process and development of aging-related diseases.

### Joseph Raffaele, M.D.

***Telomere Expert & Medical Doctor***

Dr. Raffaele has recently focused his clinical research interests on the role of telomeres in aging and the potential benefits of TA-65, a natural compound discovered to be an activator of their critical enzyme, telomerase. Since 2006, he has been a member of the scientific advisory board of TA Sciences, which licenses TA-65 from Geron, the biotech company that discovered it.
Dr. Raffaele recently conducted an observational study of 114 PhysioAge patients, collaborating with three eminent telomere biologists, and the results—the first human study documenting the beneficialeffects of TA-65—were published in published, in the journal Rejuvenation Research.




# 11. APPENDIX

# *U.S.-Issued Patents*

**DNA encoding an antigenic protein derived from Eimeria tenella and vaccines for prevention of coccidiosis caused by Eimeria tenella**

Patent Number: US4874705, Issued 1989-10-17
https://patents.google.com/patent/US4874705

**DNA encoding an antigenic protein derived from Eimeria tenella and vaccines for prevention of coccidiosis caused by Eimeria tenella**

Patent Number: US5187080, Issued 1993-02-16
https://patents.google.com/patent/US5187080

**Mammalian telomerase**

Patent Number: US5583016, Issued 1996-12-10
https://www.lens.org/lens/patent/US_5583016_A/citations
https://patents.google.com/patent/US5583016

**Mutagenesis methods and compositions**

Patent Number: US5702931, Issued 1997-12-30
https://patents.google.com/patent/US5702931

**Assays for the DNA component of human telomerase**

Patent Number: US5776679, Issued 1998-07-07
https://patents.google.com/patent/US5776679

**Protease-resistant thrombomodulin analogs**

Patent Number: US5827824, Issued 1998-10-27
https://encrypted.google.com/patents/US5827824

**Mammalian telomerase**

Patent Number: US5837857, Issued 1998-11-17
https://www.lens.org/lens/patent/US_5837857_A
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**Methods and reagents for regulating telomere length and telomerase activity**

Patent Number: US5858777, Issued 1999-01-12
https://patents.google.com/patent/US5858777

**Protease-resistant thrombomodulin analogs**

Patent Number: US5863760, Issued 1999-01-26
https://pdfs.semanticscholar.org/6b5a/5661217b6ecad97090ad29881ff59d49c53e.pdf

**RNA component of mouse, rat, Chinese hamster and bovine telomerase**

Patent Number: US5876979, Issued 1999-03-02
https://patents.google.com/patent/US5876979/ja

**Mammalian telomerase**

Patent Number: US5958680, Issued 1999-09-28
https://patents.google.com/patent/US5958680

**RNA component of telomerase**

Patent Number: US6013468, Issued 2000-01-11
https://patents.google.com/patent/US6013468
https://www.lens.org/lens/patent/US_6013468_A

**Mammalian telomerase RNA gene promoter**

Patent Number: US6054575, Issued 2000-04-25
https://patents.google.com/patent/US6054575

**Protease-resistant thrombomodulin analogs**

Patent Number: US6063763, Issued 2000-05-16

**Mammalian telomerase**

Patent Number: US6258535, Issued 2001-07-10
https://patents.google.com/patent/US6258535

**Telomerase**

Patent Number: US6261836, Issued 2001-07-17
https://www.lens.org/lens/patent/US_6261836_B1

**Peptides related to TPC2 and TPC3, two proteins that are coexpressed with telomerase activity**

Patent Number: US6300110, Issued 2001-10-09

**Mammalian telomerase**

Patent Number: US6320039, Issued 2001-11-20

**Antisense compositions for detecting and inhibiting telomerase reverse transcriptase**

Patent Number: US6444650, Issued 2002-09-03
https://patents.google.com/patent/US6444650

**Human telomerase catalytic subunit: diagnostic and therapeutic methods**

Patent Number: US6475789, Issued 2002-11-05
https://www.lens.org/lens/patent/US_6475789_B1

**Mammalian telome**

Patent Number: US6548298, Issued 2003-04-15
https://patents.google.com/patent/US6548298

## *U.S.-Issued Patents* *(continued)*

**Promoter for telomerase reverse transcriptase**
Patent Number: US6610839, Issued 2003-08-26
https://encrypted.google.com/patents/US6610839

**Cells immortalized with telomerase reverse transcriptase for use in drug screening**
Patent Number: US6617110, Issued 2003-09-09
https://patents.google.com/patent/US6617110/en

**Antisense compositions for detecting and inhibiting telomerase reverse transcriptase**
Patent Number: US6627619, Issued 2003-09-30
https://patents.google.com/patent/US6627619/ar

**Methods and compositions for modulating telomerase reverse transcriptase (TERT) expression**
Patent Number: US6686159, Issued 2004-02-03
https://patentimages.storage.googleapis.com/fd/70/fd/5181edb37e67e2/US6686159.pdf

**Telomerase promoter driving expression of therapeutic gene sequences**
Patent Number: US6777203, Issued 2004-08-17
https://patents.google.com/patent/US6777203

**Method for detecting polynucleotides encoding telomerase**
Patent Number: US6808880, Issued 2004-10-26
https://patents.google.com/patent/US6808880

**Telomerase**
Patent Number: US6921664, Issued 2005-07-26

**Genes for human telomerase reverse transcriptase and telomerase variants**
Patent Number: US6927285, Issued 2005-08-09
https://www.lens.org/lens/patent/US_6927285_B2

**Methods for detecting nucleic acids encoding human telomerase reverse transcriptase**
Patent Number: US7005262, Issued 2006-02-28
https://search.wellspringsoftware.net/patent/US07005262B2

**Telomerase**
Patent Number: US7056513, Issued 2006-06-06
https://patents.google.com/patent/US7056513

**Mammalian cells that have increased proliferative capacity**
Patent Number: US7195911, Issued 2007-03-27

**Regulatory segments of the human gene for telomerase reverse transcriptase**
Patent Number: US7199234, Issued 2007-04-03
https://www.lens.org/lens/patent/US_7199234_B2

**Telomerase expression repressor proteins and methods of using the same**
Patent Number: US7211435, Issued 2007-05-01

**Assays for TERT promoter modulatory agents using a telomerase structural RNA component**
Patent Number: US7226744, Issued 2007-06-05
https://patents.google.com/patent/US7226744

**Nucleic acids encoding human telomerase reverse transcriptase and related homologs**
Patent Number: US7262288, Issued 2007-08-28
https://www.lens.org/lens/patent/US_7262288_B1

**Methods and compositions for modulating telomerase reverse transcriptase (TERT) expression**
Patent Number: US7279328, Issued 2007-10-09
https://patents.google.com/patent/US7279328

**Antibody to telomerase reverse transcriptase**
Patent Number: US7285639, Issued 2007-10-23
https://patents.google.com/patent/US7285639

**Identifying and testing antisense oligonucleotides that inhibit telomerase reverse transcriptase**
Patent Number: US7297488, Issued 2007-11-20
https://patents.google.com/patent/US7297488

**Telomerase promoters sequences for screening telomerase modulators**
Patent Number: US7378244, Issued 2008-05-27
https://www.lens.org/lens/patent/US_7378244_B2

**Treating cancer using a telomerase vaccine**
Patent Number: US7413864, Issued 2008-08-19
https://patents.google.com/patent/US7413864

## *U.S.-Issued Patents* *(continued)*

**Muteins of human telomerase reverse transcriptase lacking telomerase catalytic activity**
Patent Number: US7517971, Issued 2009-04-14
https://patents.google.com/patent/US7517971

**Nucleic acid compositions for eliciting an immune response against telomerase reverse transcriptase**
Patent Number: US7560437, Issued 2009-07-14
https://www.lens.org/lens/patent/US_7560437_B2

**Increasing the proliferative capacity of cells using telomerase reverse transcriptase**
Patent Number: US7585622, Issued 2009-09-08
https://www.lens.org/lens/patent/US_7585622_B1

**Human telomerase reverse transcriptase polypeptides**
Patent Number: US7622549, Issued 2009-11-24
https://patents.google.com/patent/US7622549B2/en

**Antibody to telomerase reverse transcriptive**
Patent Number: US7750121, Issued 2010-07-06

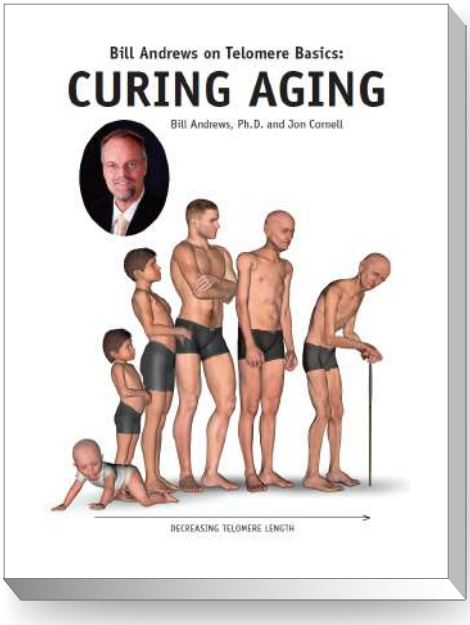
**Telomerase expression repressor proteins and methods of using the same**
Patent Number: US7795416, Issued 2010-09-14
https://www.lens.org/lens/patent/US_7795416_B2

**Regulatory segments of the human gene for telomerase reverse transcriptase**
Patent Number: US7879609, Issued 2011-02-01
https://www.lens.org/lens/patent/US_7199234_B2

**Kit for detection of telomerase reverse transcriptase nucleic acids**
Patent Number: US8222392, Issued 2012-07-17
https://patents.google.com/patent/US8222392/en

**Human telomerase catalytic subunit**
Patent Number: US8236774, Issued 2012-08-07
https://pubchem.ncbi.nlm.nih.gov/patent/US8236774#section=Top

## *Dr. Bill's books*

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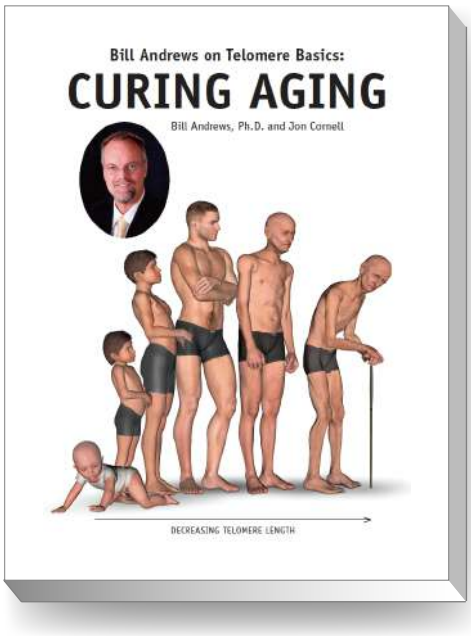
FIRST EDITION

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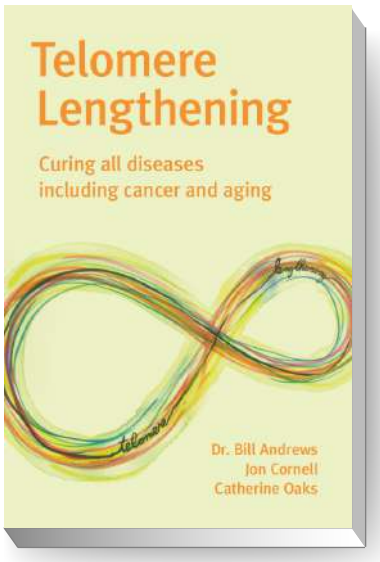
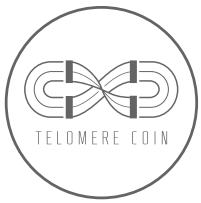



NEW BOOK
**Telomere Lengthening**




# defytime Telomere Total Solution

# WHITE PAPER

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